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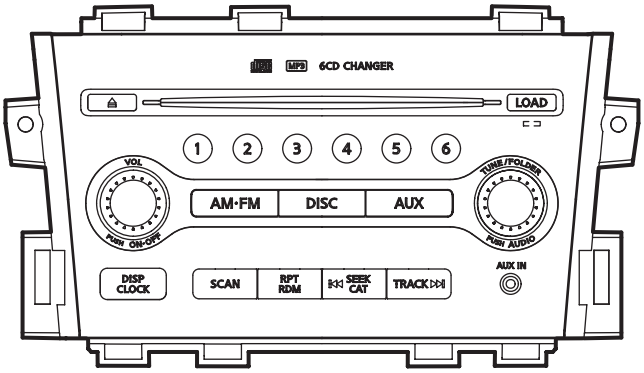
Service Manual



NISSAN Motor Genuine
6CD AM/FM Radio Combination

Model PN-2955H-A
(Genuine No.28185 1AA0A)
(ID No. CY25D)

NOTES

* The tuner of this unit is BUS-TUNER type. When the tuner pack(BL101) is exchanged, it is necessary to adjust for S-meter etc. with special JIG.
* Individual data of each unit is recorded in EEPROM IC(IC401). When EEPROM IC is replaced, it is necessary to write the data.
* DSP IC(IC301) is fixed with solder. Special JIG is necessary for removing it.
* This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from MSLGP.
* We cannot supply PWB with component parts in principle. When a circuit on PWB has failure, please repair it by component parts base. Parts which are not mentioned in service manual are not supplied.
* Specifications and design are subject to change without notice for further improvement.

SPECIFICATIONS

Radio section

Tuning system:	PLL Frequeency synthesizer system	
Receive range:	AM	530kHz to 1,710kHz
	FM	87.75MHz to 107.9MHz
Quieting sensitivity:	AM	Less than 37dBuV(S/N=20dB)
	FM	Less than 15dBuV(at 30dB S/N)
Separation:	FM	More than 25dB (ANT IN 65dBuV,1kHz) More than 20dB (ANT IN 65dBuV,7kHz)
S/N ratio:	AM	More than 40dB (ANT IN 74dBuV,0dB=1.4V)
	FM	More than 50dB (ANT IN 55dBuV,0dB=1.4V)
Auto tuning stop sensitivity:		
	AM	39 +6/-6dBuV
	FM	32 +6/-6dBuV

CD Player section

Mechanism:	6Disc CD Auto Changer
Disc:	12cm Disc
Format:	CD-DA,MP3,WMA
Distortion:	Less than 0.2%(1kHz,20kHz L.P.F.)
MP3 sampling rate:	8kHz to 48kHz
MP3 bit rate:	8kbps to 320kBps/VBR
WMA bit rate:	32kbps to 192kBps/VBR
Logical format:	ISO9660 Level 1,2 Romeo or Joliet
S/N ratio:	More than 74dB (1kHz,0dB=4.5V,20kHz L.P.F)
Separation:	More than 50dB (1kHz,20kHz L.P.F)

AUX section

Distortion:	Less than 0.4%(Input 1kHz 300mV, Output 2.45V=0dB)
S/N ratio:	More than 65dB(Input 1kHz 300mV, Output 4.5V=0dB)
Separation:	More than 52dB(Input 1kHz 300mV[L or R],Output 2.45V=0dB)

General

Load impedance:	2ohm/4CH
Power output:	45W x 4 Type
Power supply voltage:	DC13.2V(10.8 to 15.6V) Negative ground
Back-up consumption:	Less than 1.0mA
Dimensions(mm):	242(W) x 145(H) x 190(D)
Weight:	2.4kg

COMPONENT

PN-2955H-A

1.	Main unit	----------	1

To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.
   The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.
   The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.
2. Place the parts and wiring back in their original positions after replacement or re-wiring.
   For proper circuit construction, use of insulation tubes, bonding, gaps to PWB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.
   If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.
3. Check for safety after repair.
   Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary ploblems around the repaired spots.
   If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
4. Caution in removal and making wiring connection to the parts for the automobile.
   Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
5. Cautions in soldering
   Please do not spread liquid flux in soldering.
   Please do not wash the soldering point after soldering.
6. Cautions in soldering for chip capacitors
   Please solder the chip capacitors after pre-heating for replacement because they are very weak to heat.
   Please do not heat the chip capacitors with a soldering iron directly.
7. Cautions in handling for chip parts.
   Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc).
   Please make an operation test after replacement.
8. Cautions in handling flexible PWB
   Before working with a soldering iron, make sure that the iron tip temperature is around 270℃. Take care not to apply the iron tip repeatedly(more than three times)to the same patterns. Also take care not to apply the tip with force.
9. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.
10. Cautions in checking that the optical pickup lights up.
    The laser is focused on the disc reflection surface through the lens of the optical pickup. When checking that the laser optical diode lights up, keep your eyes more than 30cms away from the lens. Prolonged viewing of the laser within 30cms may damage your eyesight.
11. Cautions in handling the optical pickup
    The laser diode of the optical pickup can be damaged by electrostatic charge caused by your clothes and body. Make sure to avoid electrostatic charges on your clothes or body, or discharge static electricity before handling the optical pickup.

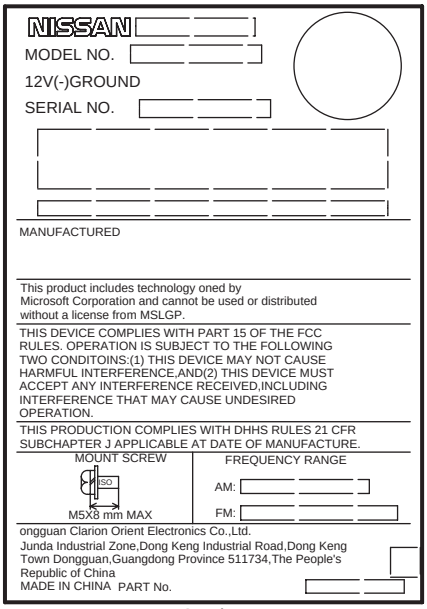
11-1. Laser diode
   The laser diode terminals are shorted for transportation in order to prevent electrostatic damage. After replacement, open the shorted circuit. When removing the pickup from the mechanism, short the terminals by soldering them to prevent this damage.

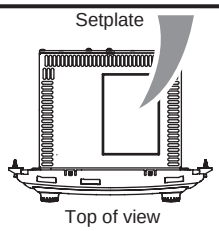
11-2. Actuator
   The actuator has a powerful magnetic circuit. If a magnetic material is put close to it. Its characteristics will change. Ensure that no foreign substances enter through the ventilation slots in the cover.

11-3. Cleaning the lens
   Dust on the optical lens affects performance.
   To clean the lens, apply a small amount of isopropyl alcohol to lens paper and wipe the lens gently.

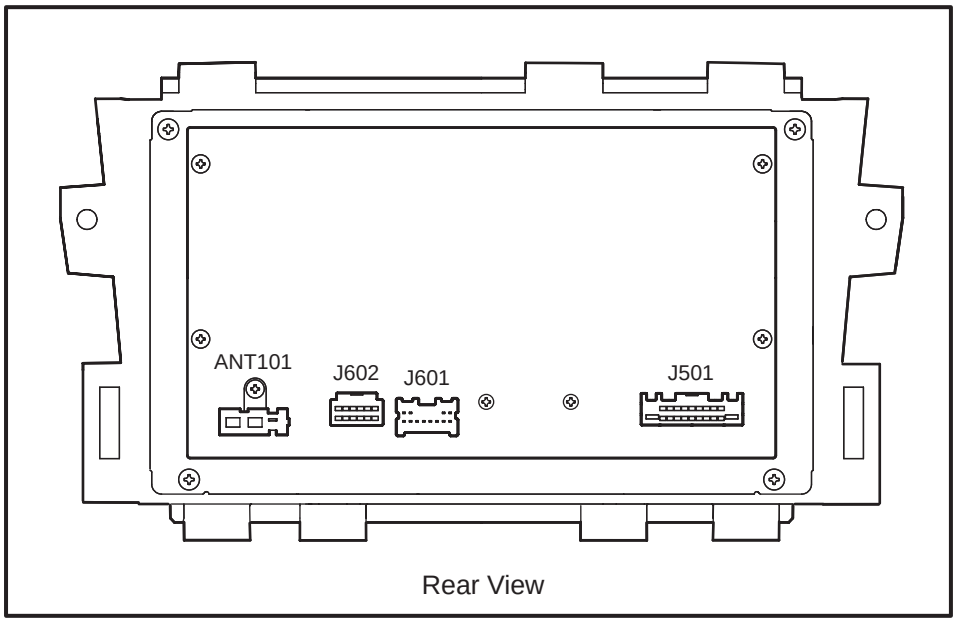
CAUTION

Use of controls, adjustment, or performance of procedures other than those specified herein, may result in hazardous radiation exposure. The compact disc player should not be adjusted or repaired by anyone except properly qualified service personnel.


NISSAN
MODEL NO.
12V(-)GROUND
SERIAL NO.
MANUFACTURED
This product includes technology oned by
Microsoft Corporation and cannot be used or distributed
without a license from MSLGP.
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC
RULES. OPERATION IS SUBJECT TO THE FOLLOWING
TWO CONDITOINS:(1) THIS DEVICE MAY NOT CAUSE
HARMFUL INTERFERENCE,AND(2) THIS DEVICE MUST
ACCEPT ANY INTERFERENCE RECEIVED,INCLUDING
INTERFERENCE THAT MAY CAUSE UNDESIRED
OPERATION.
THIS PRODUCTION COMPLIES WITH DHHS RULES 21 CFR
SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE.
MOUNT SCREW
ISO
M5X8 mm MAX
FREQUENCY RANGE
AM:
FM:
ongguan Clarion Orient Electronics Co.,Ltd.
Junda Industrial Zone,Dong Keng Industrial Road,Dong Keng
Town Dongguan,Guangdong Province 511734,The People's
Republic of China
MADE IN CHINA PART No.

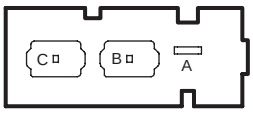


CONNECTIONS



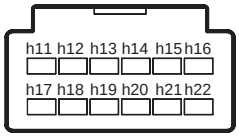
Rear View

ANT101 (GT13)
ANT Connector



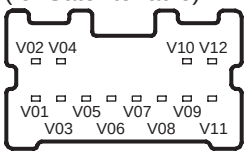
No.	Pin Name
A	ANT+B
B	MAIN ANT
C	SUB ANT

J602 (TH12)
M-CAN Connector
(for Display unit)



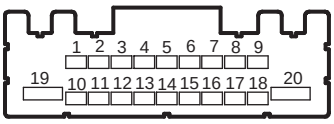
No.	Pin Name
h11	M CAN (-)
h12	M CAN (+)
h13	N.C.
h14	N.C.
h15	N.C.
h16	N.C.
h17	M CAN SHIELD
h18	GND
h19	N.C.
h20	N.C.
h21	N.C.
h22	GND

J601 (A12)
N-BUS Connector
(for Satellite radio)



No.	Pin Name
V1	SAT LCH (-)
V2	SAT LCH (+)
V3	SAT RCH (-)
V4	SAT RCH (+)
V5	GND
V6	SHIELD GND
V7	N.C.
V8	REQ(SAT->COMBI)
V9	RXD(SAT->COMBI)
V10	TXD(COMBI->SAT)
V11	N.C.
V12	N.C.

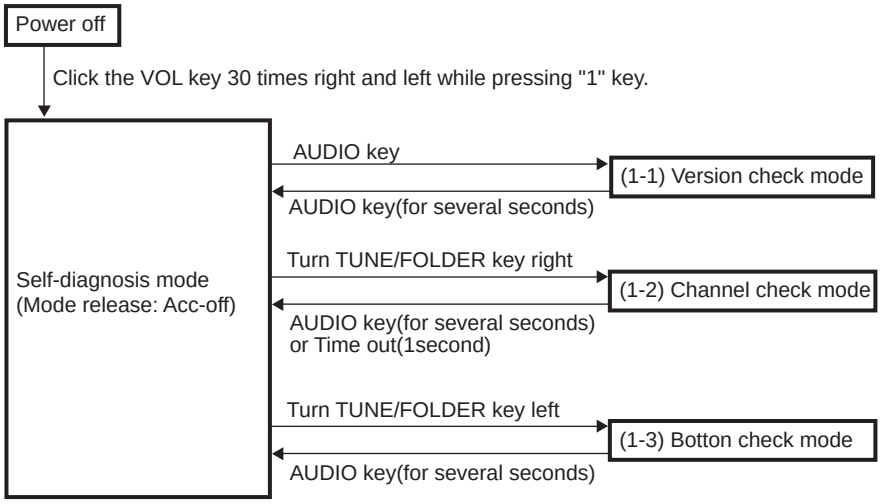
J501 (TH18)
Main Connector



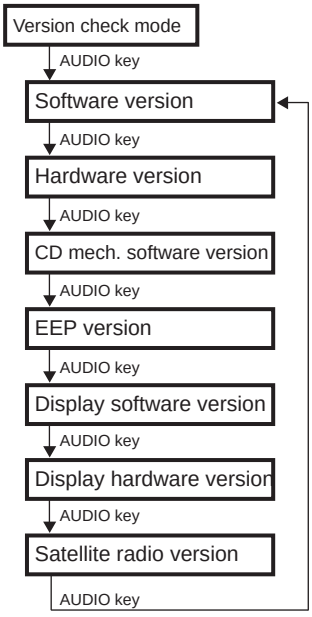
No.	Pin Name
1	N.C.
2	FRONT LCH (+)
3	FRONT LCH (-)
4	REAR LCH (+)
5	REAR LCH (-)
6	STRG SW A
7	ACC
8	ILL CONT
9	ILL (+)
10	B/U
11	GND
12	FRONT RCH (+)
13	FRONT RCH (-)
14	REAR RCH (+)
15	REAR RCH (-)
16	STRG GND
17	STRG SW B
18	N.C.
19	N.C.
20	GND

DIAGNOSIS

(1) Self-diagnosis mode


Power off
Click the VOL key 30 times right and left while pressing "1" key.
Self-diagnosis mode
(Mode release: Acc-off)
AUDIO key
(1-1) Version check mode
AUDIO key(for several seconds)
Turn TUNE/FOLDER key right
(1-2) Channel check mode
AUDIO key(for several seconds)
or Time out(1second)
Turn TUNE/FOLDER key left
(1-3) Botton check mode
AUDIO key(for several seconds)

(1-1) Version check mode



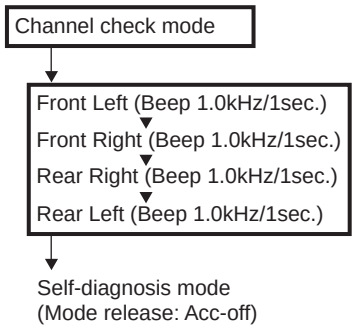
Software version display

S	o	f	t	w	a	r	e		V	0	0	0	1	0	9

Item

Version
"VFFFFFF" : Unconnection

(1-2) Channel check mode



Front Left check display

	C	h	a	n	n	e	l		C	h	e	c	k		
			F	r	o	n	t		L	e	f	t			

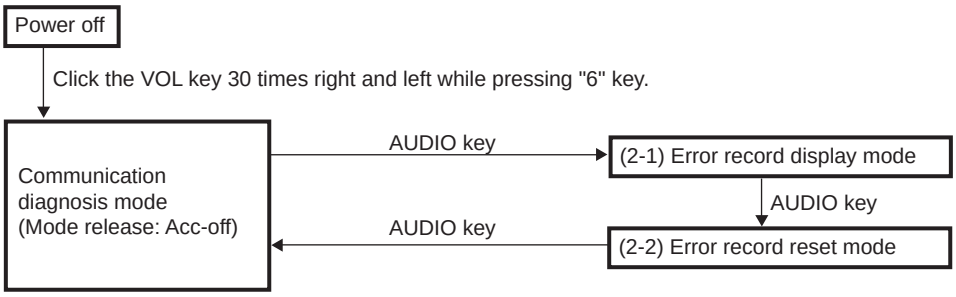
(1-3) Button check mode

* In the button check mode, when each key is operated, the key name is displayed.
The beep sound(3.5kHz) rings when the key is operated.

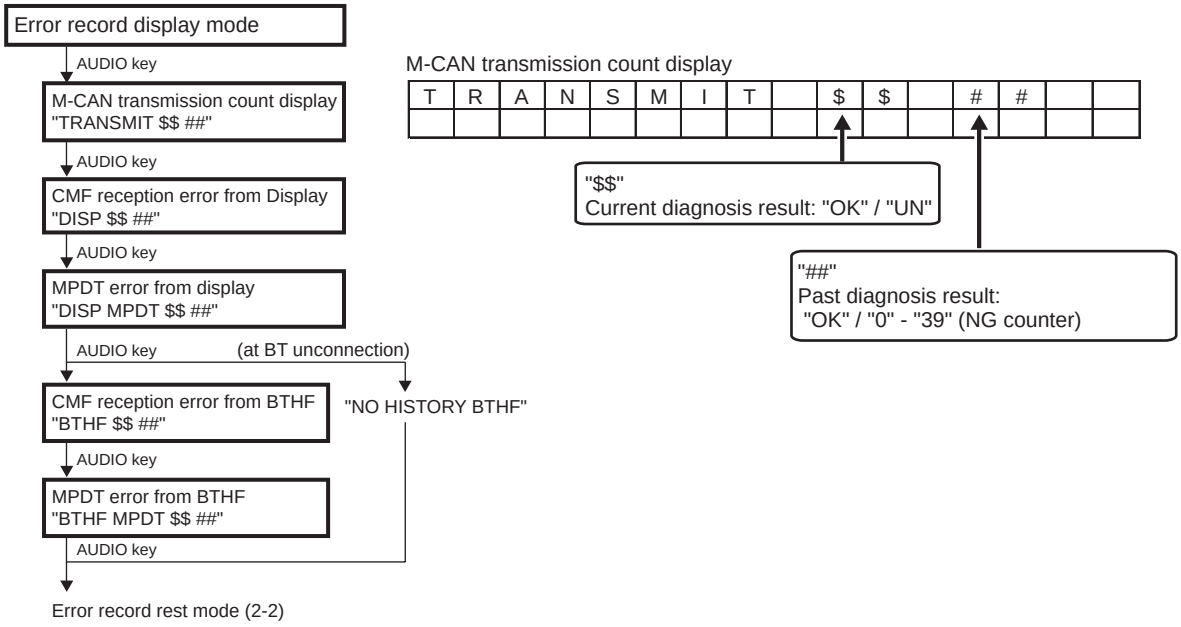
TUNE/FOLDER down check display

		B	u	t	t	o	n		C	h	e	c	k		
T	U	N	E	/	F	O	L	D	E	R		d	o	w	n

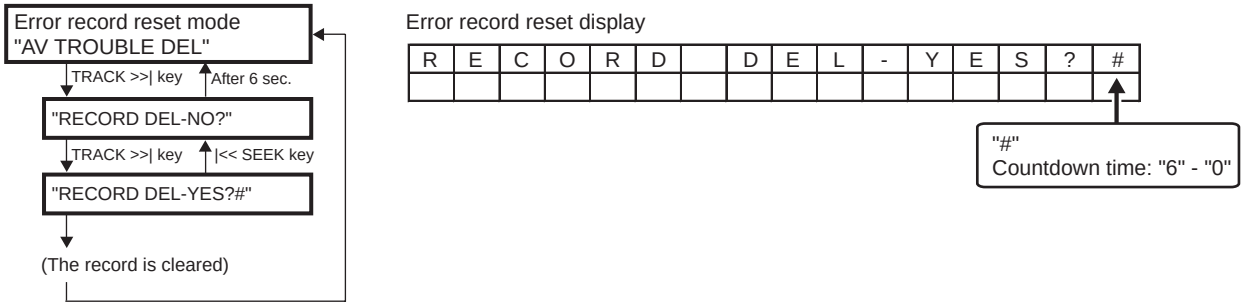
(2) Communication diagnosis mode


Power off
Click the VOL key 30 times right and left while pressing "6" key.
Communication diagnosis mode (Mode release: Acc-off)
AUDIO key
(2-1) Error record display mode
AUDIO key
(2-2) Error record reset mode
AUDIO key

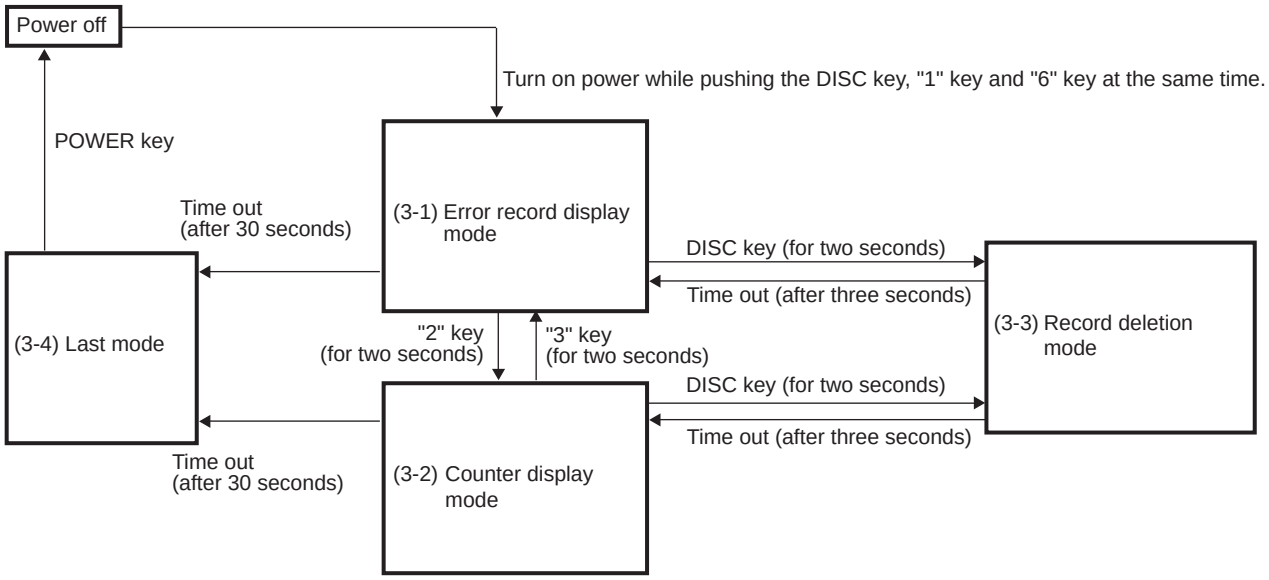
(2-1) Error record display mode


Error record display mode
AUDIO key
M-CAN transmission count display "TRANSMIT $$ ##"
AUDIO key
CMF reception error from Display "DISP $$ ##"
AUDIO key
MPDT error from display "DISP MPDT $$ ##"
AUDIO key
(at BT unconnection)
"NO HISTORY BTHF"
CMF reception error from BTHF "BTHF $$ ##"
AUDIO key
MPDT error from BTHF "BTHF MPDT $$ ##"
AUDIO key
Error record rest mode (2-2)
M-CAN transmission count display
TRANSMIT $$ ##
"$$" Current diagnosis result: "OK" / "UN"
"##" Past diagnosis result: "OK" / "0" - "39" (NG counter)

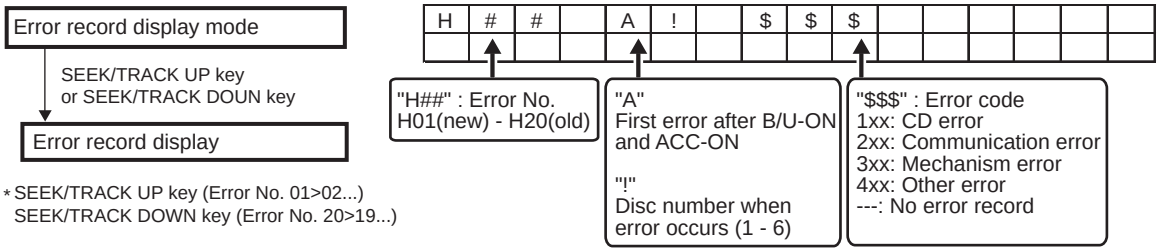
(2-2) Error record reset mode



(3) CD mechanism error record mode

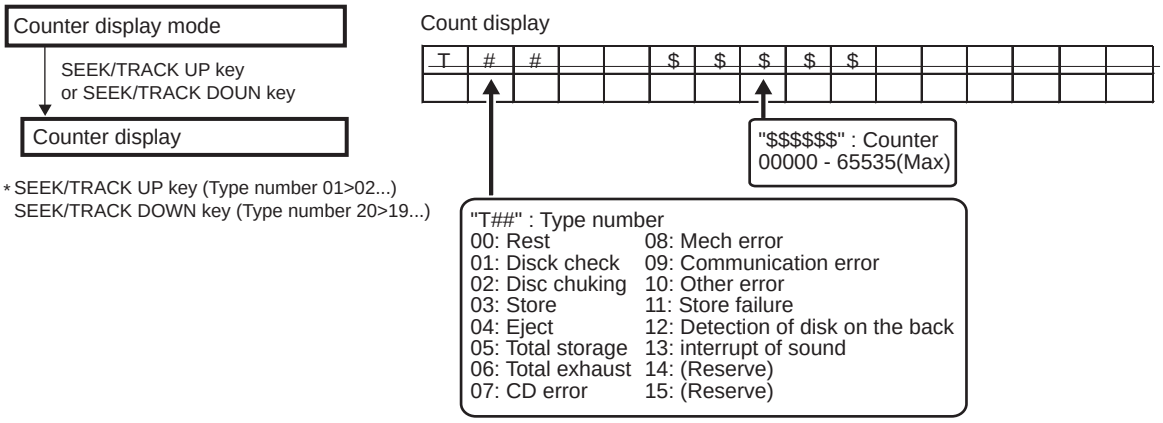

Power off
Turn on power while pushing the DISC key, "1" key and "6" key at the same time.
POWER key
Time out
(after 30 seconds)
(3-1) Error record display mode
DISC key (for two seconds)
Time out (after three seconds)
(3-3) Record deletion mode
(3-4) Last mode
"2" key
(for two seconds)
"3" key
(for two seconds)
DISC key (for two seconds)
Time out (after three seconds)
Time out
(after 30 seconds)
(3-2) Counter display mode

(3-1) Error record display mode

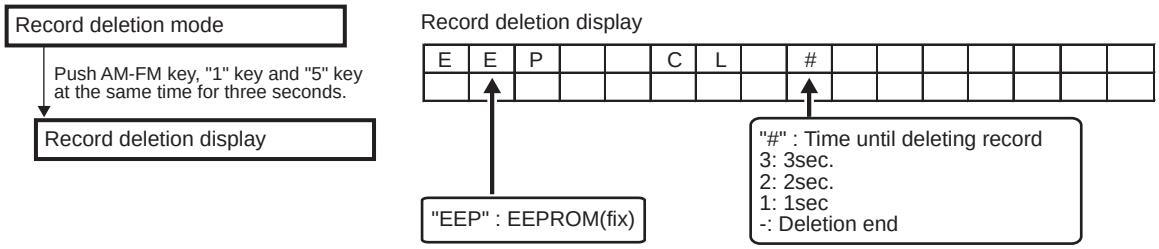

Error record display mode
SEEK/TRACK UP key
or SEEK/TRACK DOUN key
Error record display
* SEEK/TRACK UP key (Error No. 01>02...)
SEEK/TRACK DOWN key (Error No. 20>19...)
Error record display
H # # A ! $ $ $
"H##" : Error No.
H01(new) - H20(old)
"A"
First error after B/U-ON and ACC-ON
"!"
Disc number when error occurs (1 - 6)
"$$$" : Error code
1xx: CD error
2xx: Communication error
3xx: Mechanism error
4xx: Other error
---: No error record

* Recorded data is 20 or less. The old data is deleted.

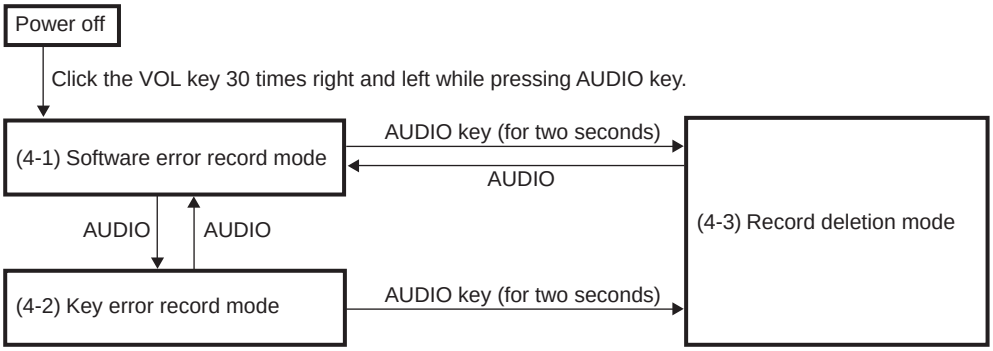
(3-2) Counter display mode



(3-3) Record deletion mode


Record deletion mode
Push AM-FM key, "1" key and "5" key
at the same time for three seconds.
Record deletion display
Record deletion display
E E P C L #
"EEP" : EEPROM(fix)
"#" : Time until deleting record
3: 3sec.
2: 2sec.
1: 1sec
-: Deletion end

(4) Software error record mode


Power off
Click the VOL key 30 times right and left while pressing AUDIO key.
(4-1) Software error record mode
AUDIO key (for two seconds)
AUDIO
AUDIO
AUDIO
(4-3) Record deletion mode
(4-2) Key error record mode
AUDIO key (for two seconds)

(4-1) Software error record mode

The detection result of the message to exceed the message buffer is displayed.

Software error record display

M	-	B	U	F	F							#	#	#	#
	↑											↑			

"M-BUFF" : Menu name (fix)

"####" : Error counter
0000 - FFFF (hexadecimal number)

(4-2) Key error record mode

Key error record mode

Push a key for two minutes.
The key locks.

The error counter of the key is displayed.

When the VOL key is clicked to the right, it moves to the next item(key).
When the VOL key is clicked to the left, it moves to the previous item(key).

Key error record display

Key error record display

@	@	@	@	@	@	@	@	@	@	@	@		L	#	#
	↑												↑		

"@@@@...." : Selected key name

"L##" : Key lock counter
00 - FF (hexadecimal number)

(4-3) Record deletion mode

Record deletion mode

"YES" displays to click the VOL key to the right.

"NO" displays to click the VOL key to the left.

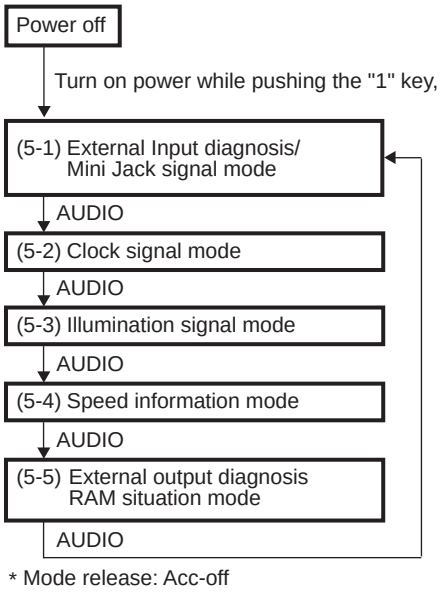
Record deletion display

Record deletion display

A	L	L		D	E	L	?				<	@	@	@	>
													↑		

"@@@"
YES: The record is deleted at the time of ACC-OFF.
NO: The record is not deleted.

(5) External input/output diagnosis


Power off
Turn on power while pushing the "1" key, "3" key and "5" key at the same time.
(5-1) External Input diagnosis/ Mini Jack signal mode
AUDIO
(5-2) Clock signal mode
AUDIO
(5-3) Illumination signal mode
AUDIO
(5-4) Speed information mode
AUDIO
(5-5) External output diagnosis RAM situation mode
AUDIO

* Mode release: Acc-off

(5-1) External Input diagnosis/ Mini Jack signal mode

Mini Jack signal display

M	I	N	I		J	A	C	K						@	@

"@@"
OK (Connected) / NG (Unconnected)

(5-2) Clock signal mode

Clock signal mode display

C	L	O	C	K				@	@	:	#	#	:	$	$

"@@" : Hour (0 - 12)
"##" : Minute (00 - 59)
"$$" : Second (00 - 58) * two sec step

(5-3) Illumination signal mode

Illumination signal display

I	L	L						@	@	@		#	#	#	%

"@@@"
YES: Illumination signal detection
NO: Illumination signal undetection

"###"
Illumination pulse (0 - 100)

(5-4) Speed information mode

Speed information display

S	P	E	E	D					#	#	#	K	M	/	H

"###"
Speed (0 - 250)

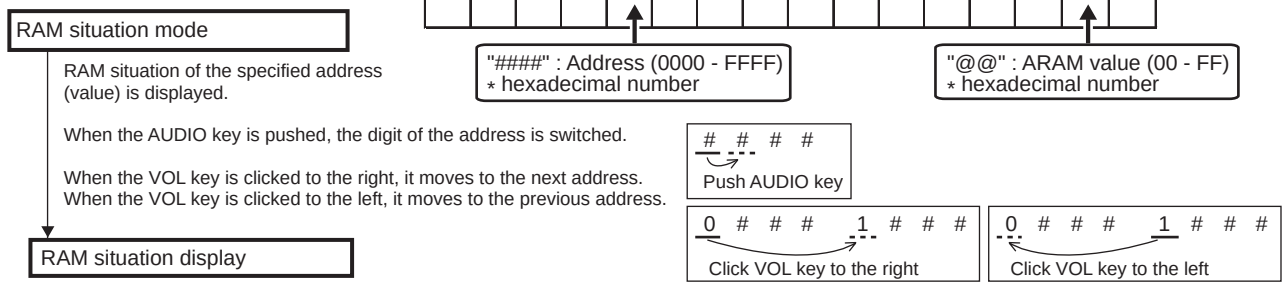
(5-5) External output diagnosis RAM situation mode

RAM situation display

A	D		#	#	#	#								@	@

"####" : Address (0000 - FFFF)
* hexadecimal number

"@@" : ARAM value (00 - FF)
* hexadecimal number


RAM situation mode
RAM situation of the specified address (value) is displayed.
When the AUDIO key is pushed, the digit of the address is switched.
When the VOL key is clicked to the right, it moves to the next address.
When the VOL key is clicked to the left, it moves to the previous address.
RAM situation display
# # # #
Push AUDIO key
0 # # # 1 # # #
Click VOL key to the right
0 # # # 1 # # #
Click VOL key to the left

(6) Fail safe mode

Acc on

↓ When a key is pressed for two minutes or more, it becomes the key lock.

Fail safe mode (Key lock)

* The key lock is recorded (4-2 Key error record mode)
* The steering wheel remote control key also

(7) Changer mode

Power off

↓ Turn on power while pushing the "2" key and "4" key at the same time.

Changer mode

* Mode release: Acc-off

(8) Loud flat mode

Power on

↓ Push the AUDIO key for ten seconds.

Loud flat mode

* Mode release: Acc-off

(9) Audio ON mode

Power off

↓ Click the VOL key 30 times right and left while pressing "3" key.

Audio ON mode

* Audio operates normally even if the indicator is removed.
* Mode release: Acc-off

TROUBLESHOOTING

Power does not turn on

	CHECK ITEM	CHECK POINT
1	B/U,ACC Power Supply	B/U 5V line(IC505) ACC DET line(Q513)
2	System Reset	B/U DET line(IC506) RESET IC(IC404)
3	Microcomputer Clock	X401:10MHz
4	System Power Supply	SYS-ON signal of IC402 (pin 9) SYS 5V line(Q508)
5	Display line	Output wave form of pins 17(M-CAN RX) and 18(M-CAN TX) of IC 402
6	M-CAN Trancever	IC403

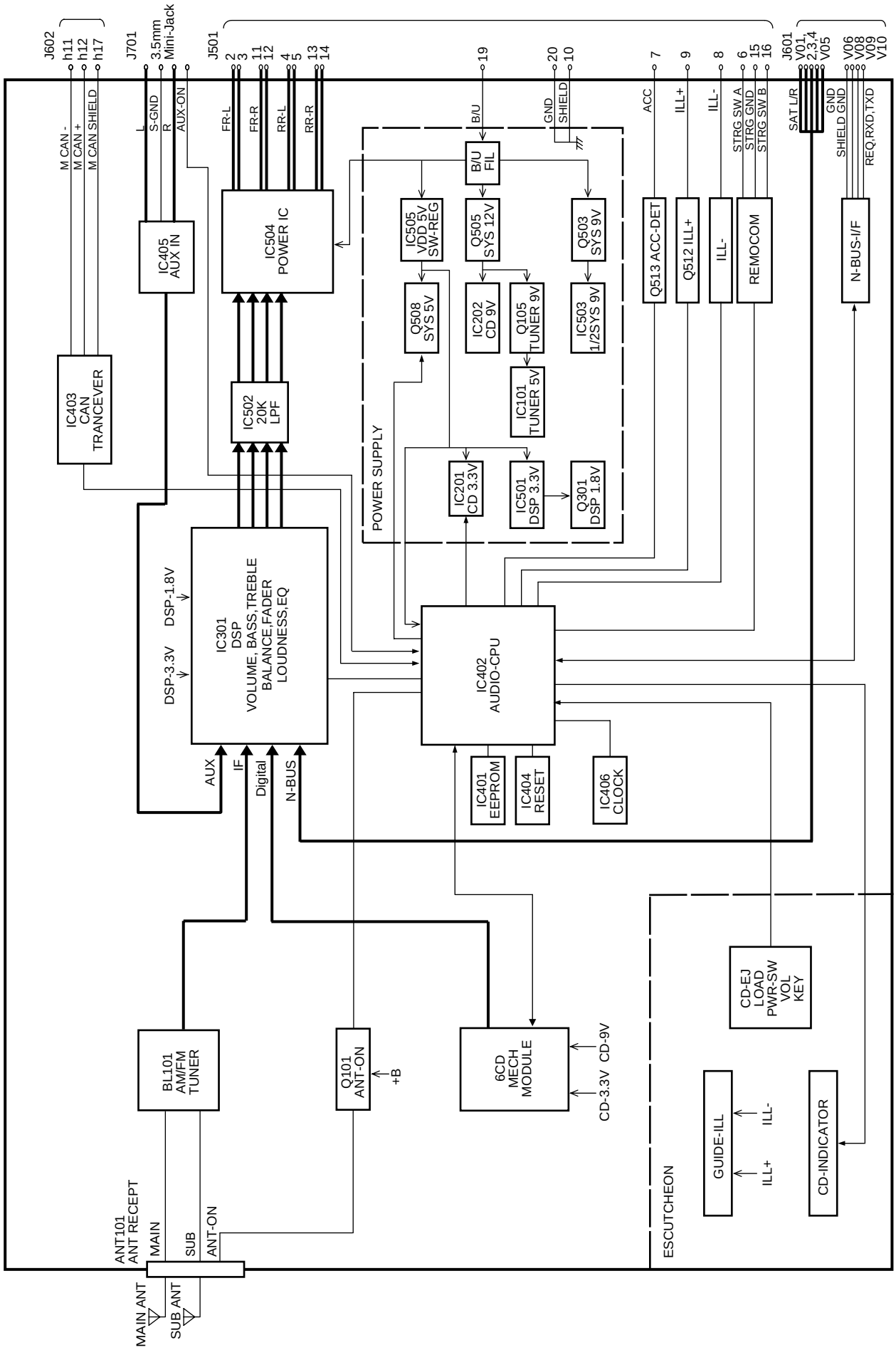
Radio does not work

	CHECK ITEM	CHECK POINT
1	Tuner Power Supply	TUN 9V(Q105) TUN 5V(IC101)
2	DSP Line	Pins 5-11 of BL101
3	Output of Tuner	Pins 13,14,28 and 29 of BL101
4	Parameter of DSP	Parameter adjustment (with special jig)
5	Output Wave Form	Pins 38,39,43 and 44 of IC301
6	Input of power IC	Pins 11,12,14 and 15 of IC504
7	Output of power IC	Power-IC IC504
8	Around power IC(IC504)	

CD player does not work

	CHECK ITEM	CHECK POINT
1	CD mechanism Power Spply	CD 9V line(IC202) CD 3.3V line(IC201)
2	CD mechanism line	Pins 33 and 34 of IC301
3	CD-SPDIF Output	Pin 8 of J201
4	Output wave form of DSP	Pins 38,39,43 and 44 of IC301
5	Input of power IC	Pins 11,12,14 and 15 of IC504
6	Output of power IC	Power-IC IC504
7	Around power IC(IC504)	

BLOCKDIAGRAM



EXPLANATION OF IC

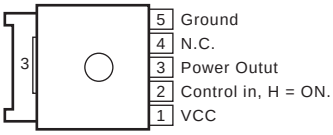
052-3205-10 M30873MHA-C10GP System Controller

Terminal Description

pin 1: ILL PULSE : IN : Illumination control signal input.
pin 2: NU : - - : Not in use.
pin 3: ST SDO : O : Sub-tuner serial data output.
pin 4: ST SCL : O : Sub-tuner serial clock output.
pin 5: BU DET : IN : Backup detection signal input.
pin 6: GND : - - : Ground.
pin 7: CN VSS : IN : Connect to VSS via a resistor.
pin 8: ILL ON : IN : Illumination ON signal input.
pin 9: SYS ON : O : System ON signal output.
pin 10: RESET : IN : Reset signal input.
pin 11: X out : O : Crystal connection.
pin 12: VSS : - - : Negative voltage supply.
pin 13: X in : IN : Crystal connection.
pin 14: VDD : - - : Positive voltage supply.
pin 15: NMI : IN : Nonmaskable interrupt. Connect to VDD via a resistor.
pin 16: ACC IN : IN : ACC ON flag input.
pin 17: M CAN RX : IN : M-CAN serial data input.
pin 18: M CAN TX : O : M-CAN serial data output.
pin 19: PLL DO : O : PLL serial data output.
pin 20: NU : - - : Not in use.
pin 21: TIME BASE : IN : Time base pulse input.
pin 22: NU : - - : Not in use.
pin 23: PLL CE : O : PLL chip enable signal output.
pin 24: DIMMER/6CD-SL: O : 6CD SLOT LED control.
pin 25: PLL CK : O : PLL clock pulse output.
pin 26: DISPLAY ON : O : Display on signal output.
pin 27: DSP SCL : O : Clock pulse output to the DSP IC.
pin 28: DSP SDA : I/O: Serial data input/output for the digital signal processor.
pin 29: NDS/FLASH TX : O : NDS serial data output for NDS and Flash memory.
pin 30: NDS/FLASH RX : IN : NDS serial data input for NDS and Flash memory.
pin 31: NDS-Req1/FLCK: IN : NDS request input / Flash clock input.
pin 32: FLASH BUSY : O : Flash memory busy signal output.
pin 33: 6CD SDA : I/O: Serial data input/output.
pin 34: 6CD SCL : O : Serial clock output.
pin 35: NU : - - : Not in use.
pin 36: NU : - - : Not in use.
pin 37: NU : - - : Not in use.
pin 38: 6CD RESET : O : Reset pulse output.
pin 39: 6CD-RQ/F-EPM : IN : 6CD request input / Flash EPM.
pin 40: GIX SYS ACC : O : 6CD-mechanism system ACC control.
pin 41: NU : - - : Not in use.
pin 42: NU : - - : Not in use.
pin 43: MAIN FIX : O : Main fix signal output for Diversity system.
pin 44: FLASH CE : O : Flash memory Chip enable.
pin 45: KS 3 : O : Key scan output.
pin 46: KS 2 : O : Key scan output.
pin 47: KS 1 : O : Key scan output.
pin 48: KS 0 : O : Key scan output.
pin 49: KS in 3 : IN : Key scan input.
pin 50: KS in 2 : IN : Key scan input.
pin 51: KS in 1 : IN : Key scan input.
pin 52: KS in 0 : IN : Key scan input.
pin 53: Power IC Stndb : O : The standby signal output to the power IC.
pin 54: NU : - - : Not in use.
pin 55: NU : - - : Not in use.
pin 56: M-VOL 2 : IN : Main volume control pulse input.
pin 57: M-VOL 1 : IN : Main volume control pulse input.
pin 58: A-VOL 2 : IN : Audio volume control pulse input.
pin 59: A-VOL 1 : IN : Audio volume control pulse input.
pin 60: VDD : - - : Positive voltage supply.
pin 61: POWER ON : IN : Power ON signal input.
pin 62: GND : - - : Ground.
pin 63: NU : - - : Not in use.
pin 64: MINI J ON : IN : AUX mini jack detection.
pin 65: NU : - - : Not in use.
pin 66: MT SCK : O : Main-tuner control clock.
pin 67: MT SDO : O : Main-tuner control data.
pin 68: FAN ON : O : The fan on signal output.
pin 69: AMP ON : O : Audio power amplifier ON signal output.
pin 70: Speed Pulse : IN : Speed pulse input.
pin 71: NU : - - : Not in use.
pin 72: RDS CK 1 : IN : RDS clock input from Main-tuner.
pin 73: RDS DA 1 : IN : RDS 1 serial data input. (Main-tuner)
pin 74: NU : - - : Not in use.
pin 75: AF MUTE : O : Audio frequency signal muting.
pin 76: MT AGC : IN : Main tuner AGC.
pin 77: ST AGC : IN : Sub tuner AGC.
pin 78: DSP RESET : O : Reset signal output to the DSP IC.
pin 79: MT S METER : IN : Input of internal A/D converter to monitor the radio field strength for the Main-tuner.
pin 80: ST S METER : IN : Input of internal A/D converter to monitor the radio field strength for the Sub-tuner.
pin 81: MT MUTE : O : Main-tuner mute output.
pin 82: ST MUTE : O : Sub-tuner mute output.
pin 83: PHONE ON : O : Phone ON signal output.
pin 84: PHONE OFF : O : Phone OFF signal output.
pin 85: NU : - - : Not in use.
pin 86: TEL ON : IN : Telephone ON signal input.
pin 87: CD EJECT : IN : CD eject signal input.
pin 88: LOAD SW : IN : LOAD switch signal input.
pin 89: MT HOLD : IN : AF-hold-signal input from the Main-tuner. And S-hold signal input from the DSP.
pin 90: ST HOLD : IN : AF-hold-signal input from the Sub-tuner. And M-hold signal input from the DSP.
pin 91: MT SAMPLE : IN : Main-tuner sample input.
pin 92: ST SAMPLE : IN : Sub-tuner sample input.
pin 93: REMO B : IN : Steering wheel remote controller signal input.
pin 94: A GND : - - : Analog ground.
pin 95: REMO A : IN : Steering wheel remote controller signal input.
pin 96: VREFI : IN : Reference voltage input.
pin 97: A VCC : - - : Positive voltage supply for the internal analog section.
pin 98: EEP CK : O : EEP-ROM clock pulse out.
pin 99: EEP DO : O : Serial data output to EEP-ROM.
pin100: DSP PAUSE : IN : DSP automatic mute control.

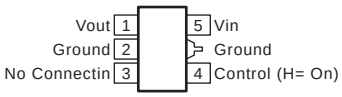
051-3396-90 NJM2386ADL3-33-TE1

Positive Voltage Regulator 3.3V



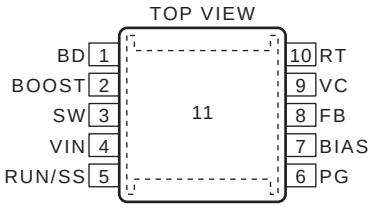
051-3516-90 S-1132B33-U5T1G

Positive Voltage Regurator 3.3V



051-3517-90 impossible of exchange (LT3481EMSE#TRPBF)

Step-Down Switching Regulator



Terminal Description

BD (Pin 1):
This pin connects to the anode of the boost Schottky diode.

BOOST (Pin 2):
This pin is used to provide a drive voltage, higher than the input voltage, to the internal bipolar NPN power switch.

SW (Pin 3):
The SW pin is the output of the internal power switch. Connect this pin to the inductor, catch diode and boost capacitor.

VIN (Pin 4):
The VIN pin supplies current to the LT3481's internal regulator and to the internal power switch. This pin must be locally bypassed.

RUN/SS (Pin 5):
The RUN/SS pin is used to put the LT3481 in shutdown mode. Tie to ground to shut down the LT3481. Tie to 2.3V or more for normal operation. If the shutdown feature is not used, tie this pin to the VIN pin.

PG (Pin 6):
The PG pin is the open collector output of an internal comparator. PG remains low until the FB pin is within 10% of the final regulation voltage. PG output is valid when VIN is above 3.5V and RUN/SS is high.

BIAS (Pin 7):
The BIAS pin supplies the current to the LT3481's internal regulator. Tie this pin to the lowest available voltage source above 3V (typically VOUT). This architecture increases efficiency especially when the input voltage is much higher than the output.

FB (Pin 8):
The LT3481 regulates the FB pin to 1.265V. Connect the feedback resistor divider tap to this pin.

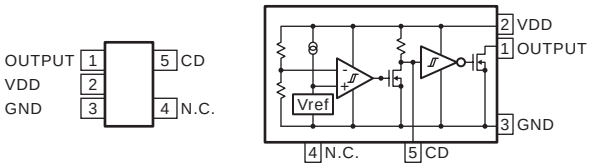
VC (Pin 9):
The VC pin is the output of the internal error amplifier. The voltage on this pin controls the peak switch current. Tie an RC network from this pin to ground to compensate the control loop.

RT (Pin 10):
Oscillator Resistor Input. Connecting a resistor to ground from this pin sets the switching frequency.

Exposed Pad (Pin 11):
Ground. The Exposed Pad must be soldered to PCB.

051-5417-38 R3112N271A-TR-FA

Precision Vlotage Down Detector 2.7V



Terminal description

pin 1: OUTPUT : N channel open drain output.
This terminal will output L, if the voltage of VDD becomes lower than the setting voltage.

pin 2: VDD : Positive supply voltage.

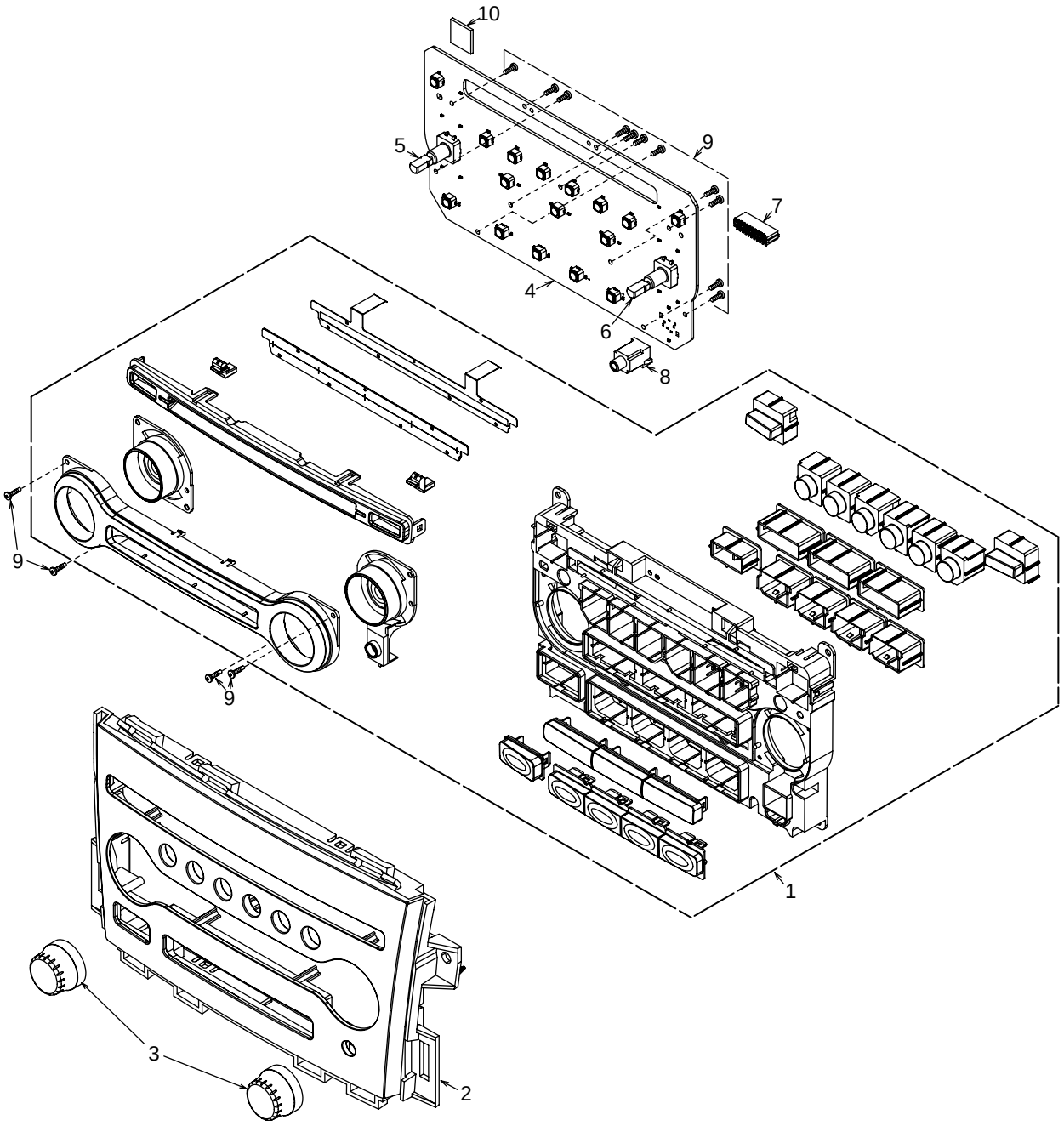
pin 3: GND : Ground.

pin 4: N.C. : Not in use.

pin 5: CD : Delay time capacitor.

EXPLODED VIEW/PARTS LIST

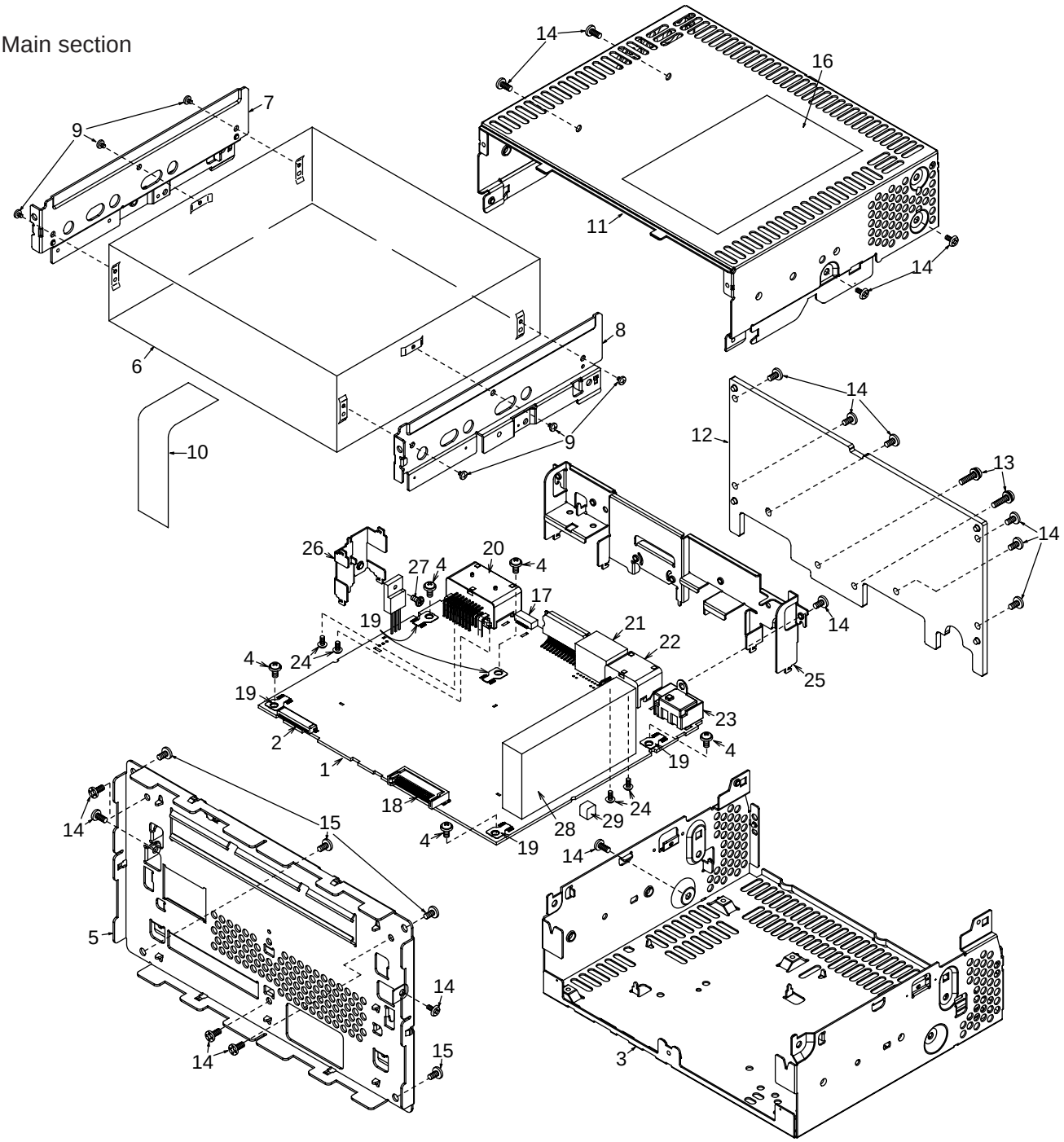
Escutcheon section



NO.	PART NO.	DESCRIPTION	Q'TY
1	947-0695-01	BACK PLATE-ASSY	1
2	370-6291-00	ESCUTCHEON	1
3	380-5705-00	KNOB	2
4	----------	SWITCH PWB	1
5	016-0018-23	VR W/SHAFT(VOL)	1

NO.	PART NO.	DESCRIPTION	Q'TY
6	016-0024-07	VR W/SHAFT(TUN/FOL)	1
7	074-3013-74	OUTLET SOCKET	1
8	075-0390-00	JACK	1
9	716-0778-52	SCREW(M2x8)	15
10	345-6126-00	CUSHION RUBBER	1

Main section



NO.	PART NO.	DESCRIPTION	Q'TY
1	----------	MAIN PWB	1
2	074-1237-69	OUTLET SOCKET	1
3	311-1914-00	LOWER CASE	1
4	716-0878-50	SCREW(M2.6x5)	5
5	309-0846-00	ES PLATE	1
6	929-0390-81	CD-CHANG-MODULE	1
7	331-4091-10	6CD BRKT(L)	1
8	331-4092-10	6CD BRKT(R)	1
9	716-3552-00	SCREW(M2.3x2.5)	6
10	816-4024-50	FLAT WIRE	1
11	310-1823-10	UPPER CASE	1
12	313-1968-00	HEAT SINK	1
13	735-2614-1B	D-SEMS SCREW(M2.6x14)	2
14	714-2606-8B	MACHINE SCREW(M2.6x6)	17
15	716-1553-50	SCREW(M3x8)	4

NO.	PART NO.	DESCRIPTION	Q'TY
16	276-0066-04	SETPLATE	1
17	076-0478-59	PLUG	1
18	076-3011-74	PLUG	1
19	073-0762-90	TERMINAL	5
20	074-4009-20	OUTLET SOCKET	1
21	074-1013-00	OUTLET SOCKET(A12)	1
22	074-1302-12	OUTLET SOCKET(TH12)	1
23	092-2210-00	ANT-RECEPT	1
24	778-3006-00	TAP-SCREW(3x6)	4
25	307-0731-00	REAR PLATE	1
26	331-4454-00	TR-HOLDER	1
27	716-1494-50	IT SCREW(M2.6x6)	1
28	880-2026L	TUNER PACK	1
29	345-5805-01	GASKET	1

ELECTRICAL PARTS LIST

Main PWB(B1) section

REF No.	PART No.	DESCRIPTION
ANT101	092-2210-00	ANTENNA RECEPT
BL101	880-2026L	TUNER PACK
C101	168-2222-55	2200pF K
C103	166-1511-50	150pF CH
C105	163-1063-35	16V 10uF
C106	166-2201-50	22pF CH
C107	043-0319-51	200P
C108	168-2222-55	2200pF K
C109	168-1022-55	1000pF K
C110	168-1022-55	1000pF K
C111	168-1022-55	1000pF K
C112	168-1022-55	1000pF K
C113	163-1073-35	16V 100uF
C114	168-2222-55	2200pF K
C115	168-1022-55	1000pF K
C116	168-1022-55	1000pF K
C117	168-1022-55	1000pF K
C118	163-1073-35	16V 100uF
C119	163-4763-35	16V 47uF
C120	168-1042-78	16V 0.1uF
C121	168-1042-78	16V 0.1uF
C123	163-1073-35	16V 100uF
C124	163-1063-35	16V 10uF
C202	178-1052-78	1uF
C203	178-3342-78	0.33uF
C205	163-2273-25	10V 220uF
C206	168-1042-78	16V 0.1uF
C207	042-0579-51	16V 10uF
C208	042-0579-51	16V 10uF
C209	168-1042-78	16V 0.1uF
C210	163-3373-15	6.3V 330uF
C301	166-1811-50	180pF CH
C302	168-1042-78	16V 0.1uF
C303	163-4753-65	50V 4.7uF
C306	168-1042-78	16V 0.1uF
C307	168-1042-78	16V 0.1uF
C308	166-8097-50	8pF C CH
C309	166-8097-50	8pF C CH
C310	168-1022-55	1000pF K
C311	168-1022-55	1000pF K
C312	168-1022-55	1000pF K
C313	168-1022-55	1000pF K
C316	168-1022-55	1000pF K
C317	168-1022-55	1000pF K
C318	168-1042-78	16V 0.1uF
C319	163-4753-65	50V 4.7uF
C320	168-1042-78	16V 0.1uF
C321	163-4753-65	50V 4.7uF
C324	168-1022-55	1000pF K
C325	168-2222-55	2200pF K
C326	163-2273-25	10V 220uF
C327	168-4732-78	0.047uF K
C328	163-2263-35	16V 22uF
C329	168-1042-78	16V 0.1uF
C330	163-3373-15	6.3V 330uF
C331	168-1042-78	16V 0.1uF
C332	168-1022-55	1000pF K
C333	168-1042-78	16V 0.1uF
C334	163-1063-35	16V 10uF
C335	168-1022-55	1000pF K
C336	178-1052-78	1uF
C337	168-3332-78	0.033uF K
C338	168-1022-55	1000pF K
C340	168-1022-55	1000pF K
C343	168-4712-55	470pF K
C344	168-1022-55	1000pF K
C345	163-2263-35	16V 22uF
C346	163-1073-15	6.3V 100uF
C348	168-3322-55	3300pF K
C349	168-3322-55	3300pF K
C350	168-3322-55	3300pF K
C351	168-3322-55	3300pF K
C352	168-1042-78	16V 0.1uF
C353	042-0643-58	6.3V 330uF
C355	168-2222-55	2200pF K
C356	168-2222-55	2200pF K
C357	168-2222-55	2200pF K
C358	168-2222-55	2200pF K
C359	163-1073-15	6.3V 100uF
C401	168-1042-78	16V 0.1uF
C402	168-1042-78	16V 0.1uF
C403	166-2201-50	22pF CH
C404	166-2201-50	22pF CH
C405	168-4722-55	4700pF K
C406	166-1201-50	12pF CH
C407	166-1201-50	12pF CH
C408	168-1042-78	16V 0.1uF
C409	163-4763-15	6.3V 47uF
C410	168-1042-78	16V 0.1uF
C411	168-1042-78	16V 0.1uF
C412	168-1032-55	0.01uF K
C413	166-1011-50	100pF CH
C414	166-1011-50	100pF CH
C415	163-4763-35	16V 47uF
C416	043-0548-50	2.2uF
C417	043-0548-50	2.2uF
C418	166-2201-50	22pF CH
C419	166-2201-50	22pF CH
C420	166-2201-50	22pF CH
C421	166-2201-50	22pF CH
C422	166-2201-50	22pF CH
C423	166-2201-50	22pF CH
C424	166-1801-50	18pF CH
C425	043-0548-50	2.2uF
C426	043-0548-50	2.2uF
C427	043-0548-50	2.2uF
C428	043-0548-50	2.2uF
C429	168-1032-55	0.01uF K
C501	168-1042-78	16V 0.1uF
C502	168-1042-78	16V 0.1uF
C503	168-1042-78	16V 0.1uF
C504	168-1042-78	16V 0.1uF
C505	166-5611-50	560pF CH
C506	166-5611-50	560pF CH
C507	166-5611-50	560pF CH
C508	178-3342-78	0.33uF
C509	166-5611-50	560pF CH
C510	163-1073-15	6.3V 100uF
C511	166-2201-50	22pF CH
C512	166-2201-50	22pF CH
C513	168-1042-78	16V 0.1uF
C514	168-1022-55	1000pF K
C515	166-2201-50	22pF CH
C516	166-2201-50	22pF CH
C517	166-5611-50	560pF CH
C518	166-5611-50	560pF CH
C519	166-5611-50	560pF CH
C520	166-5611-50	560pF CH
C521	163-4763-35	16V 47uF
C522	163-1073-35	16V 100uF
C523	166-2201-50	22pF CH
C524	168-2212-55	220pF K
C525	163-1073-35	16V 100uF
C526	042-0592-61	16V 47uF
C527	042-0592-61	16V 47uF
C528	163-4763-35	16V 47uF
C529	178-1242-78	0.12uF
C530	178-1242-78	0.12uF
C531	178-1242-78	0.12uF
C532	178-1242-78	0.12uF
C533	178-1052-78	1uF
C534	178-1242-78	0.12uF
C535	178-1242-78	0.12uF
C536	178-1242-78	0.12uF
C537	178-1242-78	0.12uF
C538	042-0579-51	16V 10uF
C539	166-2201-50	22pF CH
C540	166-2201-50	22pF CH
C541	166-2201-50	22pF CH
C542	166-2201-50	22pF CH
C543	168-1042-78	16V 0.1uF
C544	178-1042-78	0.1uF
C545	043-0566-90	50V 2.2uF K
C546	043-0604-90	25V 10uF B
C547	189-4783-31	16V 4700uF
C549	043-0499-51	0.1uF
C550	178-4742-78	0.47uF
C551	168-1042-38	50V 0.1uF
C553	168-6822-55	6800pF K
C554	168-6822-55	6800pF K
C556	168-6822-55	6800pF K
C557	168-6822-55	6800pF K
C558	168-6822-55	6800pF K
C559	168-6822-55	6800pF K
C560	168-1522-55	1500pF K
C561	168-6822-55	6800pF K
C562	168-6822-55	6800pF K
C563	168-6822-55	6800pF K
C564	166-2201-50	22pF CH
C565	178-1052-78	1uF
C566	168-1042-78	16V 0.1uF
C567	163-1063-35	16V 10uF
C568	168-2232-55	0.022uF K
C569	163-3373-15	6.3V 330uF
C570	168-1022-55	1000pF K
C601	163-1063-35	16V 10uF
C602	163-1063-35	16V 10uF
C603	163-1063-35	16V 10uF
C604	163-1063-35	16V 10uF
C607	168-2232-55	0.022uF K
C611	168-1022-55	1000pF K
C612	168-1022-55	1000pF K
C613	168-1022-55	1000pF K
CCT401	050-0145-52	1/16W 1k ohm x4
CCT402	050-0145-52	1/16W 1k ohm x4
CCT403	050-0145-52	1/16W 1k ohm x4
D101	001-0580-90	1SS352
D102	001-0580-90	1SS352
D103	001-0529-47	MA8091-M
D201	001-2412-90	RR264M-400
D502	001-0529-48	MA8091-H
D503	001-0580-90	1SS352
D504	001-0580-90	1SS352
D505	001-0580-90	1SS352
D506	001-2640-90	D1FJ4
D508	001-2015-00	RL253
D510	001-0529-48	MA8091-H
D511	001-4301-68	HZU18B1
D512	001-0580-90	1SS352
D513	001-4301-68	HZU18B1
D515	001-0529-34	MA8062-L
D517	001-0580-90	1SS352
D602	001-0529-44	MA8082-M
D605	001-4305-39	UDZSTE-17 36B
D606	001-0580-90	1SS352
D607	001-0580-90	1SS352
IC101	051-3341-90	BD3931FP
IC201	051-3516-90	S-1132B33-U5T1G
IC202	051-3340-00	LD1085P
IC301	----------	SAF7730HV/N317
IC401	051-9424-90	BR24L16FVM-WTR
IC402	052-3205-10	M30873MHA-C10GP
IC403	051-6607-08	PCA82C250T-T

REF No.	PART No.	DESCRIPTION
IC404	051-5417-38	R3112N271A-TR-FA
IC405	051-3020-90	NJM4565V
IC406	051-6212-08	LC72191JM-TLM
IC501	051-3396-90	NJM2386ADL3-33-TE1
IC502	051-3019-90	NJM2060V
IC503	051-3034-90	NJM4558V
IC504	051-2037-00	TDA7560
IC505	051-3517-90	LT3481EMSE#TRPBF
IC506	051-5441-08	BD4828G-TR
J201	074-1237-69	19PIN
J501	074-4009-20	SOCKET(20P)
J601	074-1013-00	12P
J602	074-1302-12	TH12P-SOCKET
L101	010-2003-04	30uH
L102	010-4011-20	2.5mH +3/-3%
L301	010-3104-54	600 ohm/100MHz
L302	010-3104-54	600 ohm/100MHz
L303	010-3104-54	600 ohm/100MHz
L304	010-3104-54	600 ohm/100MHz
L305	010-3104-54	600 ohm/100MHz
L306	010-3104-54	600 ohm/100MHz
L307	010-3104-54	600 ohm/100MHz
L308	010-3104-54	600 ohm/100MHz
L309	010-3104-54	600 ohm/100MHz
L310	010-3104-54	600 ohm/100MHz
L311	010-3104-54	600 ohm/100MHz
L312	010-3104-54	600 ohm/100MHz
L313	010-3104-54	600 ohm/100MHz
L402	010-3406-66	22uH J
L403	010-3406-54	2.2uH J
L404	010-3601-50	600 ohm/100MHz
L501	010-3104-54	600 ohm/100MHz
L502	010-3104-54	600 ohm/100MHz
L503	010-3414-90	6.8uH
L505	010-8048-00	COIL DN-CL1246
P401	076-0478-59	PLUG (9P)
P402	076-3011-74	24P PLUG
Q101	190-2060-00	2SA2060
Q102	125-2026-95	UN521N
Q105	192-5886-00	2SC5886
Q201	192-4081-00	2SC4081
Q202	125-0021-91	DTA114EUA
Q203	125-2027-91	DTC114EUA
Q204	198-3018-00	2SK3018
Q205	198-3018-00	2SK3018
Q206	125-9017-92	UMD3N-TR
Q301	125-7007-90	Si5441BDC-TI-E3
Q302	125-2027-91	DTC114EUA
Q305	125-2027-91	DTC114EUA
Q308	125-2027-91	DTC114EUA
Q501	190-1586-00	2SA1586 O,Y,G
Q502	125-2027-91	DTC114EUA
Q503	193-1664-00	2SD1664 P,Q,R
Q504	192-4116-51	2SC4116 G,L
Q505	191-1204-61	2SB1204 R,S,T
Q507	125-2027-91	DTC114EUA
Q508	191-1197-50	2SB1197K Q,R
Q509	125-2027-91	DTC114EUA
Q512	192-4081-00	2SC4081
Q513	192-4081-00	2SC4081
Q515	125-2027-91	DTC114EUA
Q516	192-4081-00	2SC4081
Q603	192-4081-00	2SC4081
Q604	192-4081-00	2SC4081
Q605	192-4081-00	2SC4081
Q607	125-0021-91	DTA114EUA
Q610	125-2027-91	DTC114EUA
R102	116-1091-15	1/4W 1 ohm
R104	116-1221-15	1/4W 1.2k ohm
R105	119-1031-15	1/10W 10k ohm
R106	119-0000-05	1/10W 0 ohm JW

REF No.	PART No.	DESCRIPTION
R107	119-0000-05	1/10W 0 ohm JW
R110	119-1011-15	1/10W 100 ohm
R111	119-1011-15	1/10W 100 ohm
R112	119-1011-15	1/10W 100 ohm
R115	119-1011-15	1/10W 100 ohm
R116	119-1011-15	1/10W 100 ohm
R117	119-1011-15	1/10W 100 ohm
R118	116-1091-15	1/4W 1 ohm
R119	116-3911-15	1/4W 390 ohm
R206	119-1021-15	1/10W 1k ohm
R207	119-3331-15	1/10W 33k ohm
R208	119-4731-15	1/10W 47k ohm
R209	119-1041-15	1/10W 100k ohm
R210	119-4721-15	1/10W 4.7k ohm
R212	119-4721-15	1/10W 4.7k ohm
R213	119-4721-15	1/10W 4.7k ohm
R214	119-4721-15	1/10W 4.7k ohm
R216	032-0140-98	1/10W 330 ohm F
R217	032-0140-93	1/10W 2k ohm F
R301	119-1031-15	1/10W 10k ohm
R302	119-2201-15	1/10W 22 ohm
R303	119-1031-15	1/10W 10k ohm
R306	119-0000-05	1/10W 0 ohm JW
R307	119-0000-05	1/10W 0 ohm JW
R308	032-0140-80	1/10W 18k ohm F
R309	032-0140-80	1/10W 18k ohm F
R310	032-0140-80	1/10W 18k ohm F
R311	032-0140-80	1/10W 18k ohm F
R312	119-1011-15	1/10W 100 ohm
R313	119-1031-15	1/10W 10k ohm
R314	119-1021-15	1/10W 1k ohm
R315	119-1021-15	1/10W 1k ohm
R316	119-3921-15	1/10W 3.9k ohm
R317	119-1041-15	1/10W 100k ohm
R318	119-3921-15	1/10W 3.9k ohm
R319	119-1041-15	1/10W 100k ohm
R320	119-0000-05	1/10W 0 ohm JW
R321	119-1041-15	1/10W 100k ohm
R322	119-1041-15	1/10W 100k ohm
R323	119-1041-15	1/10W 100k ohm
R324	119-1041-15	1/10W 100k ohm
R325	119-3921-15	1/10W 3.9k ohm
R326	119-1001-15	1/10W 10 ohm
R327	119-3921-15	1/10W 3.9k ohm
R328	119-1021-15	1/10W 1k ohm
R329	119-0000-05	1/10W 0 ohm JW
R330	119-0000-05	1/10W 0 ohm JW
R331	032-0140-50	1/10W 10k ohm F
R332	032-0140-50	1/10W 10k ohm F
R333	032-0140-50	1/10W 10k ohm F
R334	032-0140-50	1/10W 10k ohm F
R335	032-0140-50	1/10W 10k ohm F
R336	032-0140-50	1/10W 10k ohm F
R337	119-1041-15	1/10W 100k ohm
R338	119-1041-15	1/10W 100k ohm
R339	119-1031-15	1/10W 10k ohm
R340	119-1031-15	1/10W 10k ohm
R341	119-1011-15	1/10W 100 ohm
R342	119-1011-15	1/10W 100 ohm
R343	119-0000-05	1/10W 0 ohm JW
R344	119-0000-05	1/10W 0 ohm JW
R345	119-0000-05	1/10W 0 ohm JW
R347	119-0000-05	1/10W 0 ohm JW
R348	119-4731-15	1/10W 47k ohm
R349	119-1031-15	1/10W 10k ohm
R350	119-0000-05	1/10W 0 ohm JW
R351	119-4731-15	1/10W 47k ohm
R352	119-1021-15	1/10W 1k ohm
R353	119-1021-15	1/10W 1k ohm
R354	119-1021-15	1/10W 1k ohm
R355	119-1021-15	1/10W 1k ohm
R356	119-4731-15	1/10W 47k ohm
R357	119-4731-15	1/10W 47k ohm

REF No.	PART No.	DESCRIPTION
R358	119-1001-15	1/10W 10 ohm
R359	119-4731-15	1/10W 47k ohm
R360	119-4731-15	1/10W 47k ohm
R361	119-4731-15	1/10W 47k ohm
R362	119-4731-15	1/10W 47k ohm
R401	119-1021-15	1/10W 1k ohm
R402	119-1021-15	1/10W 1k ohm
R403	119-1021-15	1/10W 1k ohm
R404	119-1021-15	1/10W 1k ohm
R405	119-0000-05	1/10W 0 ohm JW
R406	119-1021-15	1/10W 1k ohm
R407	119-1021-15	1/10W 1k ohm
R408	119-1021-15	1/10W 1k ohm
R409	119-4731-15	1/10W 47k ohm
R410	119-4731-15	1/10W 47k ohm
R411	119-4721-15	1/10W 4.7k ohm
R412	119-4731-15	1/10W 47k ohm
R413	119-4731-15	1/10W 47k ohm
R414	119-4711-15	1/10W 470 ohm
R415	119-4711-15	1/10W 470 ohm
R416	119-4721-15	1/10W 4.7k ohm
R417	119-4721-15	1/10W 4.7k ohm
R418	119-4721-15	1/10W 4.7k ohm
R419	119-4721-15	1/10W 4.7k ohm
R420	119-1041-15	1/10W 100k ohm
R421	119-1041-15	1/10W 100k ohm
R424	119-1011-15	1/10W 100 ohm
R425	119-1011-15	1/10W 100 ohm
R426	119-1011-15	1/10W 100 ohm
R427	119-1011-15	1/10W 100 ohm
R428	119-1031-15	1/10W 10k ohm
R429	119-1031-15	1/10W 10k ohm
R430	119-4721-15	1/10W 4.7k ohm
R431	119-1021-15	1/10W 1k ohm
R432	119-1021-15	1/10W 1k ohm
R433	119-4721-15	1/10W 4.7k ohm
R434	119-1021-15	1/10W 1k ohm
R435	116-6201-15	1/4W 62 ohm
R436	119-1031-15	1/10W 10k ohm
R437	116-6201-15	1/4W 62 ohm
R438	119-4731-15	1/10W 47k ohm
R440	119-1021-15	1/10W 1k ohm
R441	119-0000-05	1/10W 0 ohm JW
R443	119-1031-15	1/10W 10k ohm
R444	119-4731-15	1/10W 47k ohm
R445	119-1031-15	1/10W 10k ohm
R446	119-4731-15	1/10W 47k ohm
R447	119-1021-15	1/10W 1k ohm
R448	119-4731-15	1/10W 47k ohm
R449	119-4731-15	1/10W 47k ohm
R450	119-4731-15	1/10W 47k ohm
R451	119-4731-15	1/10W 47k ohm
R452	119-4731-15	1/10W 47k ohm
R453	119-1011-15	1/10W 100 ohm
R454	119-1011-15	1/10W 100 ohm
R455	119-1021-15	1/10W 1k ohm
R456	119-4721-15	1/10W 4.7k ohm
R457	119-4721-15	1/10W 4.7k ohm
R458	119-1041-15	1/10W 100k ohm
R459	119-1011-15	1/10W 100 ohm
R461	119-2231-15	1/10W 22k ohm
R462	119-1041-15	1/10W 100k ohm
R466	119-1531-15	1/10W 15k ohm
R467	119-1531-15	1/10W 15k ohm
R468	119-4731-15	1/10W 47k ohm
R469	119-1531-15	1/10W 15k ohm
R470	119-1531-15	1/10W 15k ohm
R471	119-1031-15	1/10W 10k ohm
R472	119-1031-15	1/10W 10k ohm
R473	119-1031-15	1/10W 10k ohm
R474	119-1031-15	1/10W 10k ohm
R475	119-1031-15	1/10W 10k ohm
R476	119-1031-15	1/10W 10k ohm

REF No.	PART No.	DESCRIPTION
R495	119-4731-15	1/10W 47k ohm
R496	119-4731-15	1/10W 47k ohm
R497	119-4731-15	1/10W 47k ohm
R498	119-4731-15	1/10W 47k ohm
R499	119-1011-15	1/10W 100 ohm
R501	119-1031-15	1/10W 10k ohm
R502	119-1031-15	1/10W 10k ohm
R503	119-1031-15	1/10W 10k ohm
R504	119-1031-15	1/10W 10k ohm
R505	119-1031-15	1/10W 10k ohm
R506	119-1031-15	1/10W 10k ohm
R507	119-1031-15	1/10W 10k ohm
R508	119-1031-15	1/10W 10k ohm
R509	119-1031-15	1/10W 10k ohm
R510	119-1031-15	1/10W 10k ohm
R511	119-1051-15	1/10W 1M ohm
R512	119-1051-15	1/10W 1M ohm
R513	119-1051-15	1/10W 1M ohm
R514	119-1051-15	1/10W 1M ohm
R515	119-1031-15	1/10W 10k ohm
R516	119-1031-15	1/10W 10k ohm
R517	119-1031-15	1/10W 10k ohm
R518	119-1031-15	1/10W 10k ohm
R519	119-1031-15	1/10W 10k ohm
R520	119-1031-15	1/10W 10k ohm
R521	119-4721-15	1/10W 4.7k ohm
R522	119-4721-15	1/10W 4.7k ohm
R523	119-1031-15	1/10W 10k ohm
R524	119-1031-15	1/10W 10k ohm
R525	119-1031-15	1/10W 10k ohm
R526	116-3911-15	1/4W 390 ohm
R527	116-1221-15	1/4W 1.2k ohm

REF No.	PART No.	DESCRIPTION
R529	116-1221-15	1/4W 1.2k ohm
R530	116-1221-15	1/4W 1.2k ohm
R531	119-1031-15	1/10W 10k ohm
R533	119-1031-15	1/10W 10k ohm
R534	116-1221-15	1/4W 1.2k ohm
R535	119-4721-15	1/10W 4.7k ohm
R536	119-4731-15	1/10W 47k ohm
R537	116-4721-15	1/4W 4.7k ohm
R538	119-2731-15	1/10W 27k ohm
R539	119-4721-15	1/10W 4.7k ohm
R540	119-1521-15	1/10W 1.5k ohm
R541	119-1031-15	1/10W 10k ohm
R542	032-0140-03	1/10W 220k ohm F
R543	032-0140-19	1/10W 75k ohm F
R548	119-2241-15	1/10W 220k ohm
R551	119-1031-15	1/10W 10k ohm
R552	032-0140-16	1/10W 180k ohm F
R553	032-0148-50	1/10W 100k ohm
R554	032-0140-51	1/10W 15k ohm F
R555	116-2721-15	1/4W 2.7k ohm
R556	116-1531-15	1/4W 15k ohm
R558	119-2221-15	1/10W 2.2k ohm
R559	116-1531-15	1/4W 15k ohm
R560	116-4791-15	1/4W 4.7 ohm
R561	116-4791-15	1/4W 4.7 ohm
R562	119-1031-15	1/10W 10k ohm
R564	119-5611-15	1/10W 560 ohm
R565	119-1031-15	1/10W 10k ohm
R569	119-0000-05	1/10W 0 ohm JW
R571	119-0000-05	1/10W 0 ohm JW
R572	119-0000-05	1/10W 0 ohm JW
R573	119-0000-05	1/10W 0 ohm JW

REF No.	PART No.	DESCRIPTION
R574	119-0000-05	1/10W 0 ohm JW
R575	119-0000-05	1/10W 0 ohm JW
R576	119-7531-15	1/10W 75k ohm
R577	119-4731-15	1/10W 47k ohm
R601	119-3011-15	1/10W 300 ohm
R602	119-3011-15	1/10W 300 ohm
R607	119-1021-15	1/10W 1k ohm
R609	119-5621-15	1/10W 5.6k ohm
R610	119-5621-15	1/10W 5.6k ohm
R612	119-5631-15	1/10W 56k ohm
R613	119-5631-15	1/10W 56k ohm
R615	119-4731-15	1/10W 47k ohm
R616	119-1031-15	1/10W 10k ohm
R617	119-1031-15	1/10W 10k ohm
R623	119-5631-15	1/10W 56k ohm
R624	119-1031-15	1/10W 10k ohm
R625	119-2231-15	1/10W 22k ohm
R626	119-4731-15	1/10W 47k ohm
SUP101	060-0122-91	DSP-141N-S00B
SUP102	060-0122-91	DSP-141N-S00B
TC401	004-1580-10	30pF GRN
TH101	002-0229-00	PTH8L05BAIR8M1B
TM101	073-0762-90	TERMINAL
TM102	073-0762-90	TERMINAL
TM501	073-0762-90	TERMINAL
TM502	073-0762-90	TERMINAL
TM601	073-0762-90	TERMINAL
X301	061-3537-90	41.6MHz
X401	061-3541-90	CRYSTAL 10MHz
X402	061-1066-00	7.2MHz
PWB	039-3155-00	PWB(WITHOUT CO MPONENT)

REF No.	PART No.	DESCRIPTION
R722	116-1221-15	1/4W 1.2k ohm
R723	116-1221-15	1/4W 1.2k ohm
R724	116-1521-15	1/4W 1.5k ohm
S701	013-6202-52	SKPMBJE010
S702	013-6202-52	SKPMBJE010
S703	013-6202-52	SKPMBJE010
S704	013-6202-52	SKPMBJE010
S705	013-6202-52	SKPMBJE010

REF No.	PART No.	DESCRIPTION
S706	013-6202-52	SKPMBJE010
S707	013-6202-52	SKPMBJE010
S708	013-6202-52	SKPMBJE010
S709	013-6202-52	SKPMBJE010
S710	013-6202-52	SKPMBJE010
S711	013-6202-52	SKPMBJE010
S712	013-6202-52	SKPMBJE010
S713	013-6202-52	SKPMBJE010

REF No.	PART No.	DESCRIPTION
S714	013-6202-52	SKPMBJE010
S715	013-6202-52	SKPMBJE010
S716	013-6202-52	SKPMBJE010
VR701	016-0018-23	VR W/SHAFT
VR702	016-0024-07	VR W/SHAFT
PWB	039-3156-01	PWB(WITHOUT CO MPONENT)

Switch PWB(B2) section

REF No.	PART No.	DESCRIPTION
D701	001-9210-50	AVR-M1608C270MT AAD
D702	001-9210-50	AVR-M1608C270MT AAD
D703	001-9210-50	AVR-M1608C270MT AAD
D704	001-9210-50	AVR-M1608C270MT AAD
D705	001-0516-90	MA111
D706	001-0516-90	MA111
D707	001-0516-90	MA111
D708	001-0516-90	MA111
D709	001-0516-90	MA111
D710	001-0516-90	MA111
D711	001-0516-90	MA111
D712	001-0516-90	MA111
D713	001-7109-90	SML-311DTT86 ORG
D714	001-7109-90	SML-311DTT86 ORG
D715	001-7109-90	SML-311DTT86 ORG
D716	001-7109-90	SML-311DTT86 ORG
D717	001-7109-90	SML-311DTT86 ORG
D720	001-7109-90	SML-311DTT86 ORG
D721	001-7109-90	SML-311DTT86 ORG
D722	001-7109-90	SML-311DTT86 ORG
D723	001-7109-90	SML-311DTT86 ORG
D724	001-7109-90	SML-311DTT86 ORG

REF No.	PART No.	DESCRIPTION
D725	001-7109-90	SML-311DTT86 ORG
D728	001-7109-90	SML-311DTT86 ORG
D729	001-7109-90	SML-311DTT86 ORG
D730	001-7109-90	SML-311DTT86 ORG
D731	001-7109-90	SML-311DTT86 ORG
D736	001-7109-90	SML-311DTT86 ORG
D737	001-7109-90	SML-311DTT86 ORG
D738	001-7109-90	SML-311DTT86 ORG
D739	001-7109-90	SML-311DTT86 ORG
D740	001-7109-90	SML-311DTT86 ORG
D741	001-7109-90	SML-311DTT86 ORG
D743	001-7109-90	SML-311DTT86 ORG
D744	001-7109-90	SML-311DTT86 ORG
D745	001-7109-90	SML-311DTT86 ORG
D746	001-7109-90	SML-311DTT86 ORG
D748	001-7109-90	SML-311DTT86 ORG
D749	001-7109-90	SML-311DTT86 ORG
D750	001-7109-90	SML-311DTT86 ORG

REF No.	PART No.	DESCRIPTION
D751	001-7109-90	SML-311DTT86 ORG
D753	001-7109-90	SML-311DTT86 ORG
D754	001-7109-90	SML-311DTT86 ORG
D756	001-7109-90	SML-311DTT86 ORG
D757	001-7109-90	SML-311DTT86 ORG
D758	001-7109-90	SML-311DTT86 ORG
D759	001-7109-90	SML-311DTT86 ORG
D760	001-0516-90	MA111
D761	001-0516-90	MA111
D762	001-7109-90	SML-311DTT86 ORG
J701	075-0390-00	JACK
J702	074-3013-74	24P
R701	116-3321-15	1/4W 3.3k ohm
R705	116-1021-15	1/4W 1k ohm
R706	116-1821-15	1/4W 1.8k ohm
R707	116-2221-15	1/4W 2.2k ohm
R709	116-2721-15	1/4W 2.7k ohm
R710	116-2221-15	1/4W 2.2k ohm
R711	116-4711-15	1/4W 470 ohm
R713	116-2221-15	1/4W 2.2k ohm
R714	116-1521-15	1/4W 1.5k ohm
R715	116-1521-15	1/4W 1.5k ohm
R716	116-1521-15	1/4W 1.5k ohm
R717	116-2721-15	1/4W 2.7k ohm
R718	116-2421-15	1/4W 2.4k ohm
R719	116-2721-15	1/4W 2.7k ohm
R720	116-1221-15	1/4W 1.2k ohm
R721	116-1221-15	1/4W 1.2k ohm

PRINTED WIRING BOARD

Main PWB(B1) section 1/2

Caution:

COMPONENT SIDE:
Parts on the component side seen from the component side are indicated.

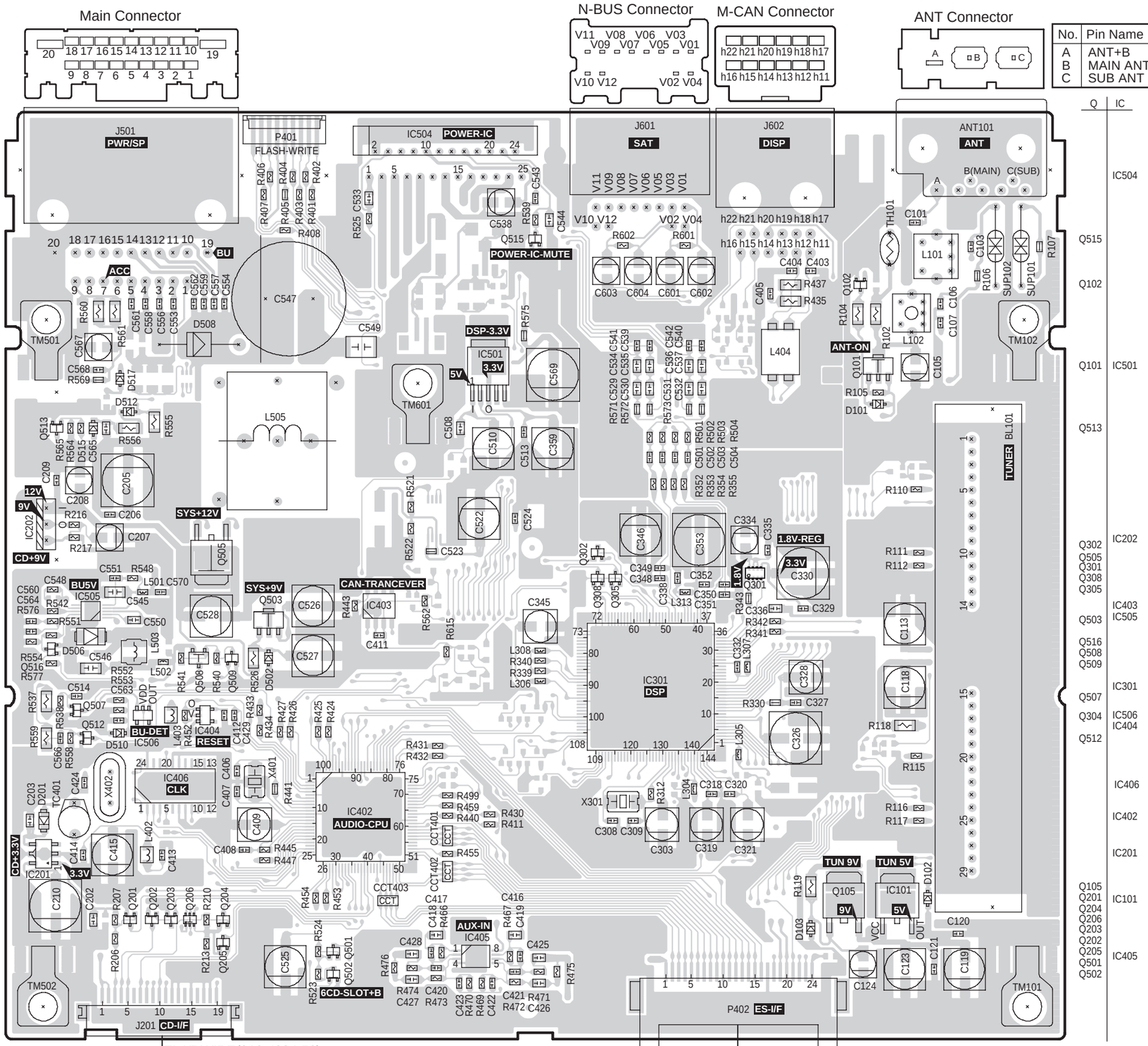
SOLDER SIDE:
Parts on the solder side seen from the solder side are indicated.

No.	Pin Name	No.	Pin Name	No.	Pin Name
1	N.C.	8	ILL CONT	15	REAR RCH (-)
2	FRONT LCH (+)	9	ILL (+)	16	STRG GND
3	FRONT LCH (-)	10	B/U	17	STRG SW B
4	REAR LCH (+)	11	GND	18	N.C.
5	REAR LCH (-)	12	FRONT RCH (+)	19	N.C.
6	STRG SW A	13	FRONT RCH (-)	20	GND
7	ACC	14	REAR RCH (+)		

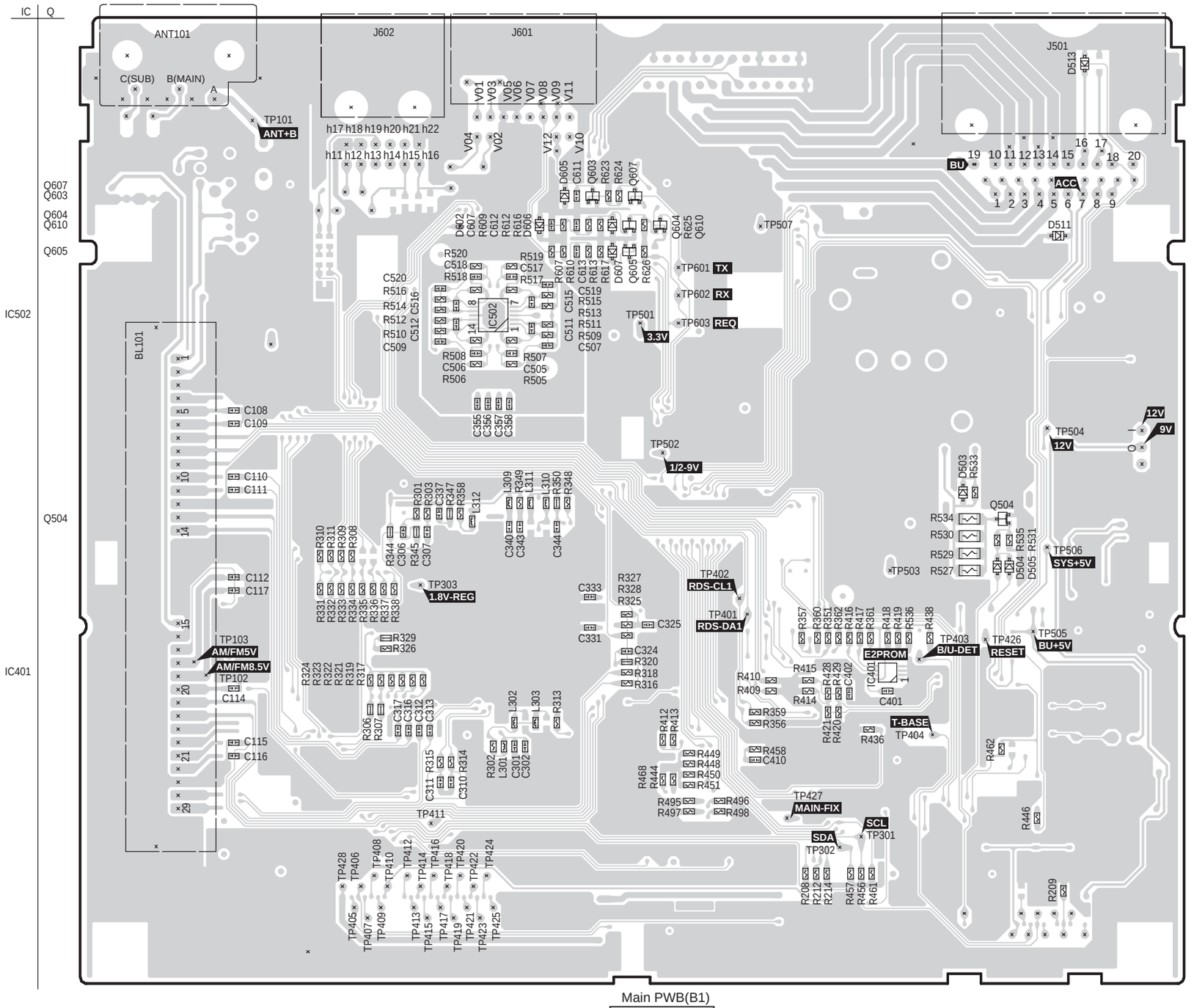
No.	Pin Name	No.	Pin Name
V1	SAT LCH (-)	V8	REQ(SAT->COMBI)
V2	SAT LCH (+)	V9	RXD(SAT->COMBI)
V3	SAT RCH (-)	V10	TXD(COMBI->SAT)
V4	SAT RCH (+)	V11	N.C.
V5	GND	V12	N.C.
V6	SHIELD GND		
V7	N.C.		

No.	Pin Name	No.	Pin Name
h11	M CAN (-)	h18	GND
h12	M CAN (+)	h19	N.C.
h13	N.C.	h20	N.C.
h14	N.C.	h21	N.C.
h15	N.C.	h22	GND
h16	N.C.		
h17	M CAN SHIELD		

No.	Pin Name
A	ANT+B
B	MAIN ANT
C	SUB ANT



Main PWB(B1) section 2/2



Main PWB(B1)
SOLDER SIDE

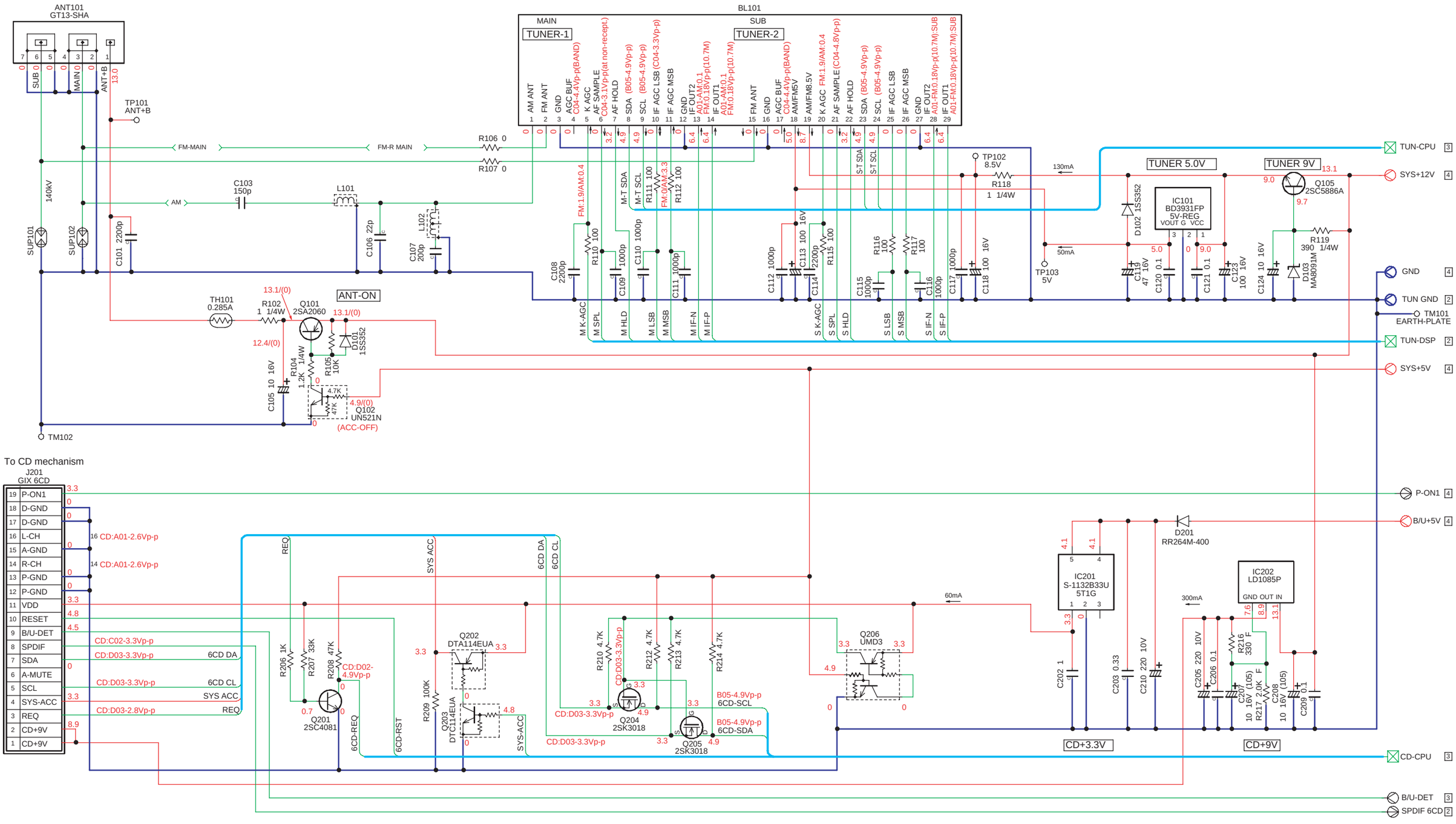
PN-2955H-A

CIRCUIT DIAGRAM

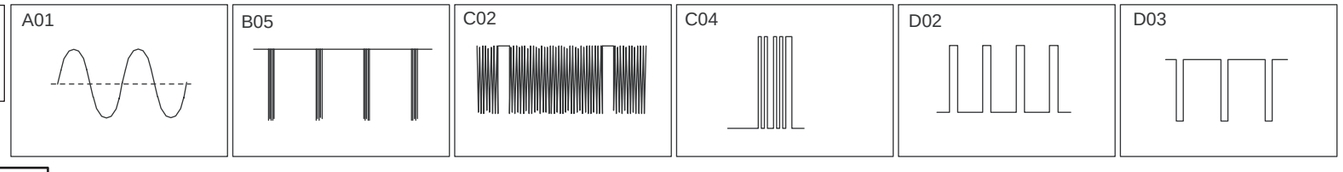
Main PWB(B1) section 1/5

[Tuner, CD mech. I/F Block]

* Voltage : When standard input level is received



1 To 1/5 (page 20)
2 To 2/5 (page 21)
3 To 3/5 (page 22)
4 To 4/5 (page 23)
5 To 5/5 (page 24)



Main PWB(B1) section 2/5

[DSP Block]

DSP

IC301
SAF7730HV/N317

CPU

TUNER

TUNER-DSP-I/O-FLAG

AUDIO-DSP-I/O-FLAG

IBOC-FLAG

I2C-TUNER

DICE2-CONNE

OSC

TUNER

ANALOG-IN

《MINI-JACK》

RAM-LOAD

I2C

REG

I2S3

I2S2

I2S1(GS-1N3)

RDS-DEC

SPDIF-IN

DAC-OUT

20KHZ-LPF

RDS-DEC-I/F

DSP-CPU-IF

A-3.3V-FIL

1.8V-REG

1	To 1/5 (page 20)
2	To 2/5 (page 21)
3	To 3/5 (page 22)
4	To 4/5 (page 23)
5	To 5/5 (page 24)

A01

C01

C02

C04

Main PWB(B1) section 3/5

[CPU Block]

AUDIO-CPU

IC402
M30873MHA-C10GP

FLASH:M30879FLAGP
ROM:1024K/RAM:48K

MASK:M30876MJA
ROM:512K/RAM:31K

FRASH-WRITE

P401 FLASH-WRITE

1	BUSY
2	FLSH-RX
3	FLSH-TX
4	CNVSS
5	VDD
6	GND
7	SCLK
8	EPM
9	CE

E2PROM

IC401 BR24L16FVM-WTR

CAN-TRANCEVER

IC403 PCA82C250T-T

M-CAN-TR

L404 ZJYS81R5-2PL25

RESET

IC404 R3112N271A-TR-FA

RESET VOLT. : 2.7V

IC405 NJM4565V

IC406 LC72191JM-TLM

X402 7.2MHz

TC401 30P

L402 22uH

L403 2.2u

TP402 RBDS-CL

TP401 RBDS-DA

TP403 B/U-DET

TP404 T-BASE

TP426 RESET

TP427 (MAIN FIX)

To J702 of SW PWB (page 26)

P402

24	AUX-GND	TP428
23	AUX-R	TP405
22	AUX-L	TP406
21	MINI-J-ON	TP407
20	ILL-(USA)	TP408
19	ILL+	TP409
18	6CD SLOT+B	TP410
17	GND	TP411
16	CD-EJ	TP412
15	LOAD	TP413
14	POW-SW	TP414
13	A-VOL1	TP415
12	A-VOL2	TP416
11	M-VOL1	TP417
10	M-VOL2	TP418
9	KR-0	TP419
8	KR-1	TP420
7	KR-2	TP421
6	KR-3	TP422
5	KS-0	TP423
4	KS-1	TP424
3	KS-2	TP425
2	KS-3	
1	GND	

POW-CPU 4
GND 4
SYS+5V 4
B/U+5V 4
ILL+ 4
ILL- 4
6CD SLOT+B 4

TUN-CPU 1
TEL-ON 5
B/U-DET 1
CAN-L 5
CAN-H 5

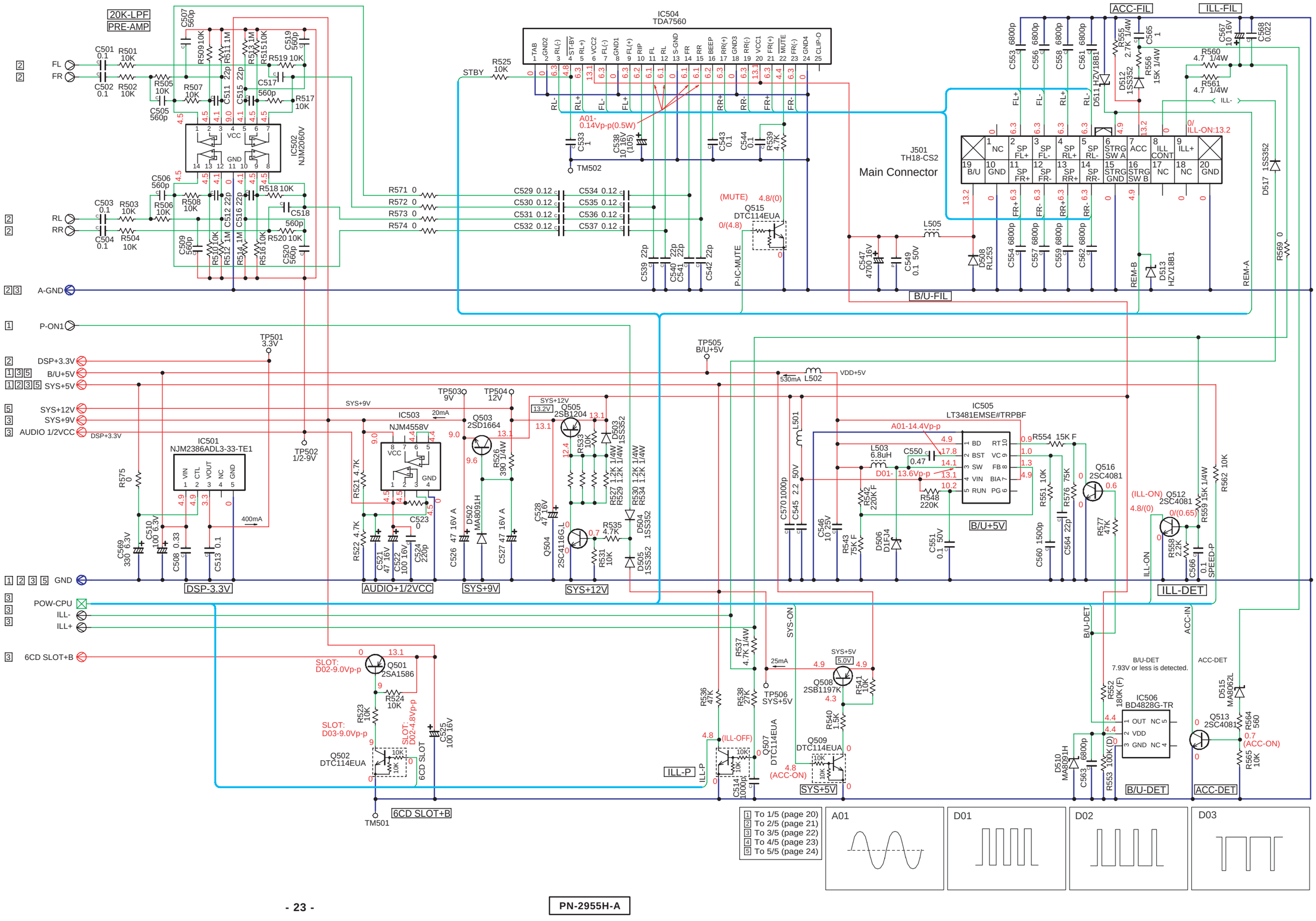
SYS+9V 4
AUDIO 1/2VCC 4
A-GND 4
AUX-L AUX-L 2
AUX-R AUX-R 2

To 1/5 (page 20)
To 2/5 (page 21)
To 3/5 (page 22)
To 4/5 (page 23)
To 5/5 (page 24)

A01 B05 C02 C03 D02

Main PWB(B1) section 4/5

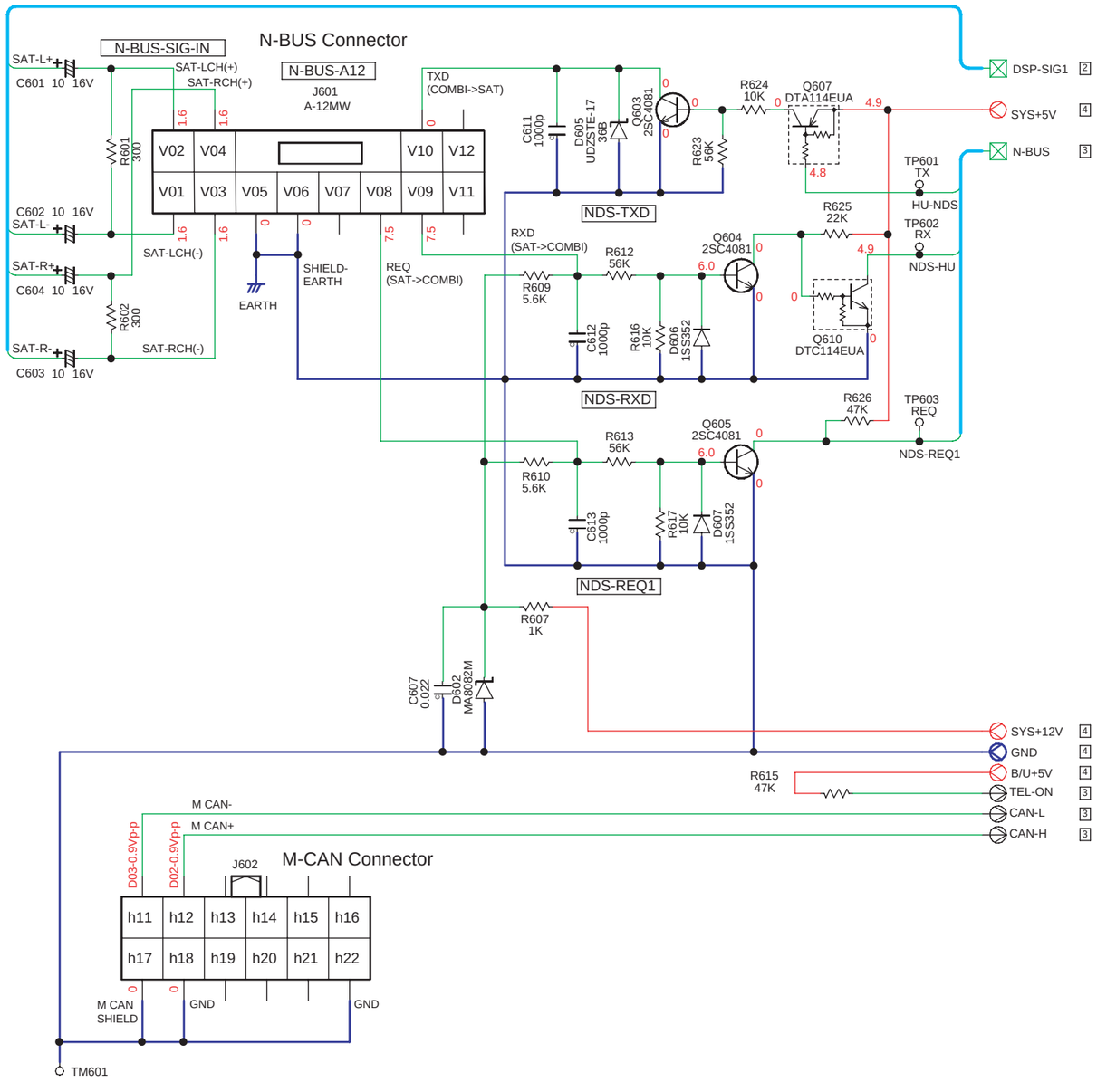
[Power supply/Power-IC Block]



PRINTED WIRING BOARD

Main PWB(B1) section 5/5

[A12/TH12 Block]



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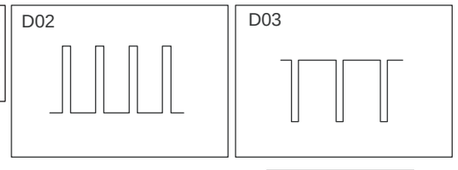
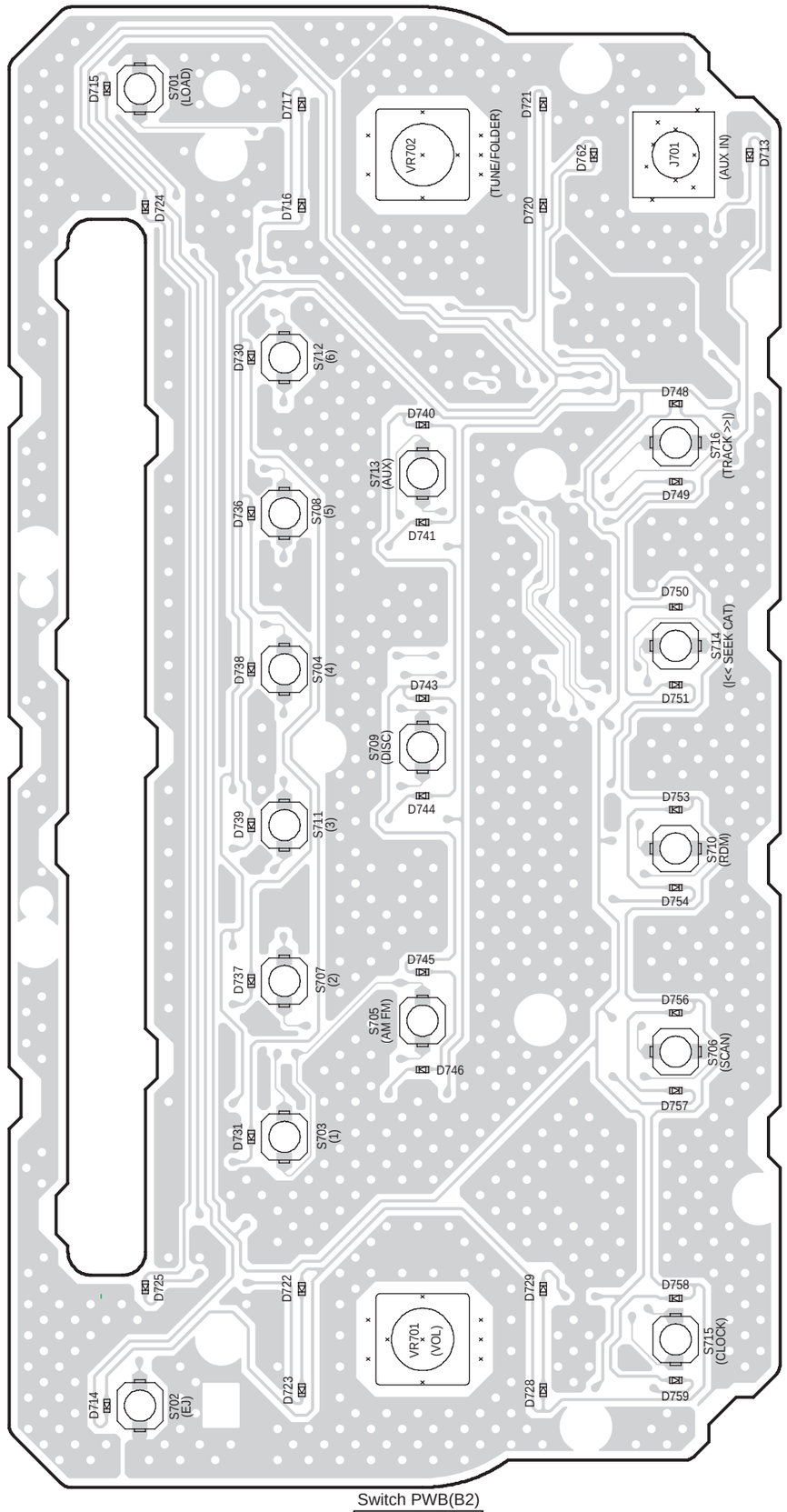
3 To 3/5 (page 22)
4 To 4/5 (page 23)
5 To 5/5 (page 24)



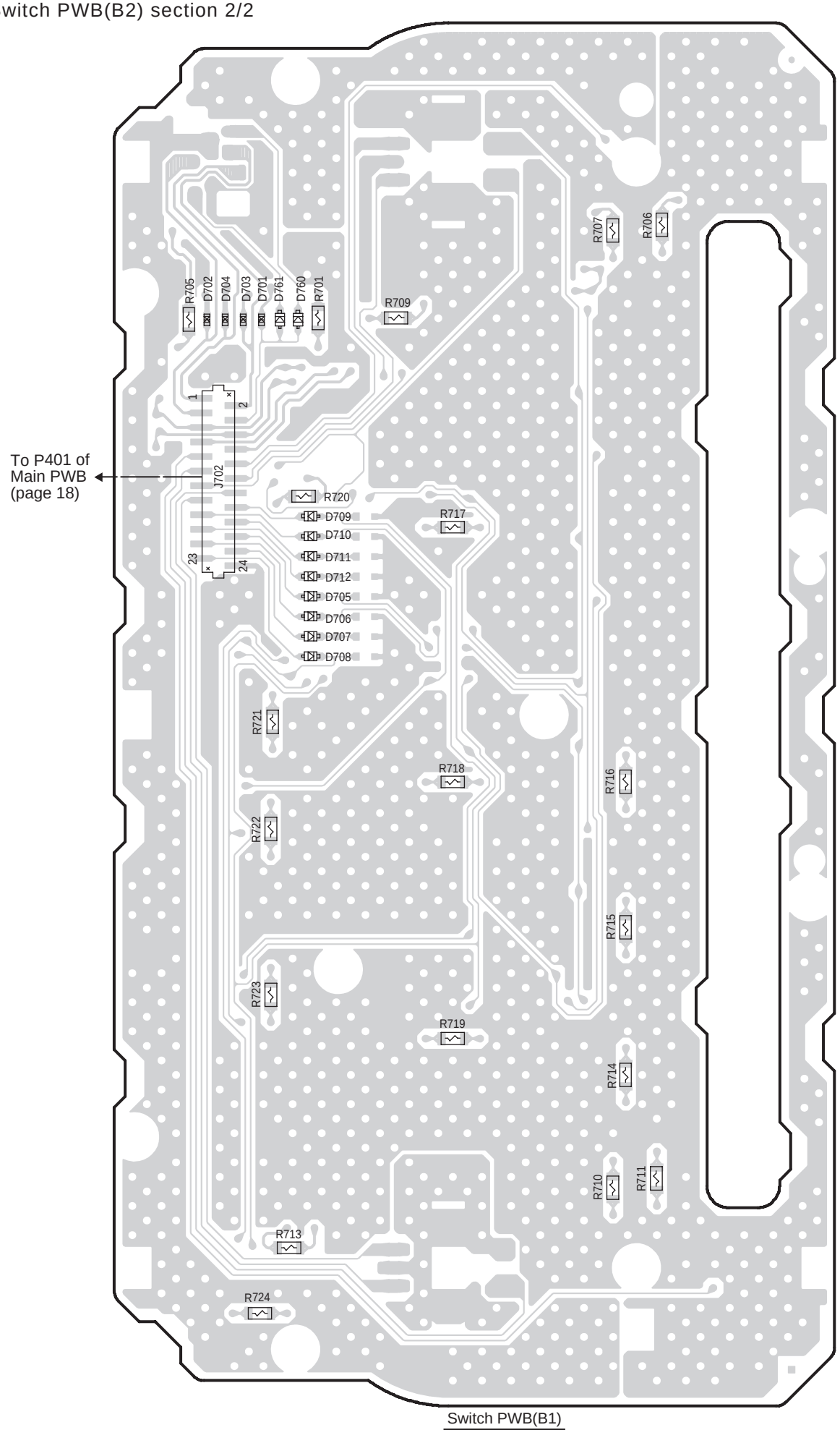
Switch PWB(B2) section 1/2



Switch PWB(B2)
COMPONENT SIDE

PN-2955H-A

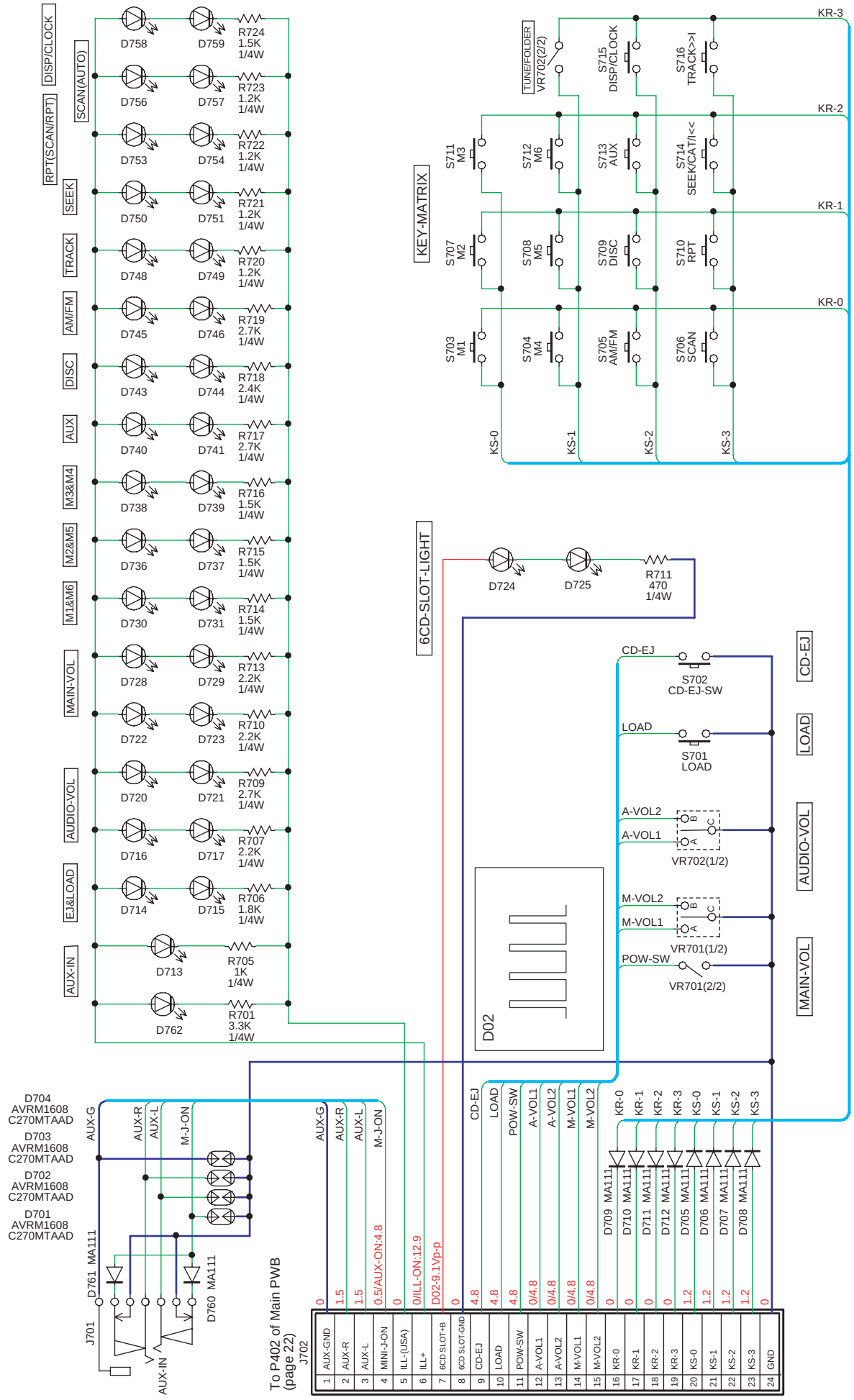
Switch PWB(B2) section 2/2



PN-2955H-A

CIRCUIT DIAGRAM

Switch PWB(B2) section



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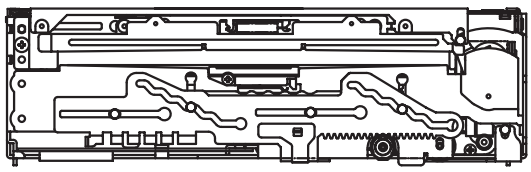
Service Manual



In Dash 6disk CD Auto Changer Mechanism (GI-X)

Model 929-0390-81

EXPLANATION OF IC

051-6733-00 TC94A73MFG-201 CD IC (Decorder)

Terminal Description

pin 1: A VSS	: - :	Analog ground.
pin 2: RF ZI	: IN :	RF ripple zero cross signal input.
pin 3: RF RP	: O :	RF ripple signal output.
pin 4: SBAD/RFDC	: O :	Sub beam Addition / RF Peak detection.
pin 5: F E	: IN :	Focusing error signal input.
pin 6: T E	: IN :	Tracking error signal input.
pin 7: TE Z IN	: IN :	Tracking error zero cross signal input.
pin 8: A VDD	: - :	Positive voltage supply for the analog section.
pin 9: FOO	: O :	Focus equalizer output.
pin 10: TRO	: O :	Tracking equalizer output.
pin 11: Vref	: - :	Reference voltage.
pin 12: FMO	: O :	Field equalizer output.
pin 13: DMO	: O :	Disk equalizer output.
pin 14: VSS	: - :	Negative voltage supply.
pin 15: VCO CNTRL	: IN :	VCO control signal input.
pin 16: VDD	: - :	Positive voltage supply.
pin 17: VDD	: - :	Positive voltage supply.
pin 18: VSS	: - :	Negative voltage supply.
pin 19: FG IN	: IN :	FG input for the spindle CAV servo.
pin 20: IO 0 (HSo)	:I/O:	Play speed mode flag.
pin 21: IO 1 (UHSo)	:I/O:	Play speed mode flag.
pin 22: X VSS	: - :	Clock ground.
pin 23: X in	: IN :	Crystal connection.
pin 24: X out	: O :	Crystal connection.
pin 25: X VDD	: - :	Clock power supply.
pin 26: D VSS	: - :	DAC ground.
pin 27: RO	: O :	Right channel audio signal output.
pin 28: D VDD	: - :	Positive voltage supply for the DAC.
pin 29: DVR	: - :	Reference voltage for the DAC.
pin 30: LO	: O :	Left channel audio signal output.
pin 31: D VSS	: - :	DAC ground.
pin 32: VDD	: - :	Positive voltage supply.
pin 33: VSS	: - :	Negative voltage supply.
pin 34: VDD	: - :	Positive voltage supply.
pin 35: VDD	: - :	Positive voltage supply.
pin 36: SRAM STB	: IN :	SRAM standby.
pin 37: RESET	: IN :	Reset signal input.
pin 38: BUS 0	:I/O:	Parallel Data input/output.
pin 39: BUS 1	:I/O:	Parallel Data input/output.
pin 40: BUS 2 / SO	:I/O:	Parallel Data input/output. Serial data output.
pin 41: BUS 3 / SI	:I/O:	Parallel Data input/output. Serial data input.
pin 42: BUCK / CK	: IN :	Parallel Data Clock input. Serial clock input.
pin 43: CCEI	: IN :	Chip enable input.
pin 44: TEST	: IN :	For the test.
pin 45: IRQ	: IN :	DSP interrupt.
pin 46: A out 3	: O :	Audio data output.
pin 47: A out 2	: O :	Audio data output.
pin 48: Pio 0	:I/O:	General purpose input/output.
pin 49: Pio 1	:I/O:	General purpose input/output.
pin 50: Pio 2	:I/O:	General purpose input/output.
pin 51: Pio 3	:I/O:	General purpose input/output.
pin 52: VSS	: - :	Negative voltage supply.
pin 53: VDD	: - :	Positive voltage supply.
pin 54: SB SY O	: O :	Sub code block synchronous signal output.
pin 55: SB OK O	: O :	Sub code Q data CRCC OK signal output.
pin 56: IPF out	: O :	IP flag output.
pin 57: SF SY O	: O :	Frame synchronous signal output.
pin 58: Z DET O	: O :	DAC zero flag output.
pin 59: GPIN	: IN :	General purpose input.
pin 60: M/S	: IN :	I/F MODE selection.
pin 61: D out	: O :	Digital audio interface output.
pin 62: A out 1	: O :	L ch, analog output.
pin 63: B CK	: O :	Bit clock output.
pin 64: LR CK	: O :	LR clock output.
pin 65: AiN	: IN :	DAC data input.
pin 66: B CK IN	: IN :	DAC Bit clock input.
pin 67: LR CK IN	: IN :	DAC Left/Right clock input.
pin 68: VDD	: - :	Positive voltage supply.
pin 69: VSS	: - :	Negative voltage supply.

pin 70: AWRC : O : Control signal output for the active wide range VCO.
pin 71: P VDD : - : PLL positive voltage supply.
pin 72: PDO : O : Phase difference signal output of EFM-PLCK.
pin 73: TMAX S : O : T max judgment output.
pin 74: TMAX : O : T max judgment output.
pin 75: LPF N : IN : Inverted input of LPF for PLL.
pin 76: LPF out : O : Output for the Low Pass Filter.
pin 77: P Vref : - : PLL reference voltage.
pin 78: VCO FILTER : O : Loop filter for VCO.
pin 79: PLL VSS : - : PLL ground.
pin 80: SLCO : O : Output of internal DAC for data slice level generation.
pin 81: RF IN : IN : RF signal input.
pin 82: RF RP : IN : RF ripple input.
pin 83: RF EQ out : O : The output of the RF equalizer.
pin 84: Vref out : O : Reference voltage output.
pin 85: RESIN : IN : Resistor connection for the reference current.
pin 86: VMDiR : O : APC reference voltage.
pin 87: TESTR : O : The compensation terminal for RFEQO offset.
pin 88: AGCI : IN : Input of the RF AGC amplifier.
pin 89: RF out : O : RF signal output.
pin 90: RF VDD : - : RF power supply.
pin 91: LDO : O : The laser diode drive output.
pin 92: MDI : IN : Monitor photo diode signal input.
pin 93: RF VSS : - : RF ground.
pin 94: FNi 2 : IN : Main beam input.
pin 95: FNi 1 : IN : Main beam input.
pin 96: FPi 2 : IN : Main beam input.
pin 97: FPi 1 : IN : Main beam input.
pin 98: TPI : IN : Sub beam signal input.
pin 99: TNPC : O : TNI/TPI capacitor.
pin100: TNI : IN : Sub beam signal input.

052-5071-30 TMP91CY22IFG-6R96 Mechanism Controller

TerminalDescription

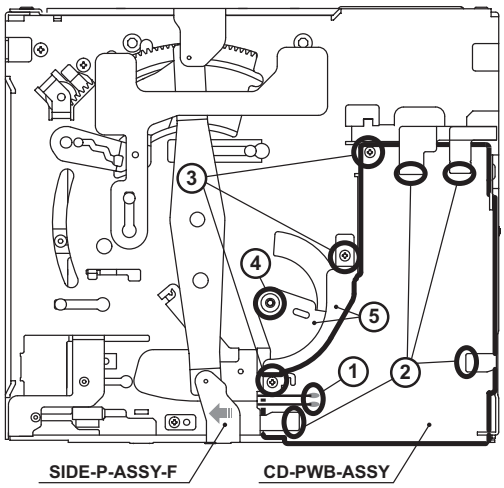
pin 1: Vref L : - : Reference voltage.
pin 2: A VSS : - : Analog ground.
pin 3: A VCC : - : Positive voltage supply for the internal analog section.
pin 4: LO CW : O : Loading motor control signal output.
pin 5: LO CCW : O : Loading motor control signal output.
pin 6: A MUTE : O : Audio mute signal output.
pin 7: P1/T3 : O : Power ON signal output.
pin 8: NU : - : Not in use.
pin 9: Power ON 1 : O : Power ON signal output.
pin 10: NU : - : Not in use.
pin 11: NU : - : Not in use.
pin 12: NU : - : Not in use.
pin 13: NU : - : Not in use.
pin 14: NU : - : Not in use.
pin 15: NU : - : Not in use.
pin 16: NU : - : Not in use.
pin 17: NU : - : Not in use.
pin 18: NU : - : Not in use.
pin 19: NU : - : Not in use.
pin 20: NU : - : Not in use.
pin 21: FL TX : O : Serial data output for the flash memory.
pin 22: FL RX : IN : Serial data input for the flash memory.
pin 23: LED SW : O : Mechanism sensor LED Drive control.
pin 24: PULL UP : IN : VCC 3.3V.
pin 25: VCC : - : Positive voltage supply.
pin 26: X out : O : Crystal connection.
pin 27: VSS : - : Negative voltage supply.
pin 28: X in : IN : Crystal connection.
pin 29: PULL UP : IN : VCC 3.3V.
pin 30: RESET : IN : Reset signal input.
pin 31: NU : - : Not in use.
pin 32: NU : - : Not in use.
pin 33: NU : O : Not in use.
pin 34: NU : O : Not in use.
pin 35: BU DET : IN : Backup detection signal input.
pin 36: SW 5 : IN : The switch signal input.
pin 37: SBSY : IN : Sub code block synchronous signal detection input.
pin 38: Power ON 2 : O : Power ON signal output.
pin 39: MODE CW : O : Mode motor control.
pin 40: MODE CCW : O : Mode motor control.
pin 41: U/D CW : O : Holder control.
pin 42: U/D CCW : O : Holder control.
pin 43: ALE : O : Address latch enable output.
pin 44: DR MUTE : O : Drive mute signal output to the CD IC.
pin 45: NU : - : Not in use.
pin 46: NU : - : Not in use.
pin 47: NU : - : Not in use.
pin 48: TIME : O : For Time base.
pin 49: Power ON 4 : O : Power ON signal output.
pin 50: LIMIT : IN : Inside limit switch signal input for the pick-up.
pin 51: Power ON 3 : O : Power ON signal output.
pin 52: DSP REQ : IN : DSP request input.
pin 53: CCE : O : Chip enable signal output.
pin 54: BUS CK : O : Bus clock output or Tape MSGU control.
pin 55: BUS 3 : I/O: CD IC Data input / output.
pin 56: BUS 2 : I/O: CD IC Data input / output.
pin 57: BUS 1 : I/O: CD IC Data input / output.
pin 58: BUS 0 : I/O: CD IC Data input / output.
pin 59: CD RESET : O : Reset pulse output to the CD IC.
pin 60: SRM STB : O : SRAM standby.
pin 61: NU : - : Not in use.
pin 62: VSS : - : Negative voltage supply.
pin 63: NMI : IN : Nonmaskable interrupt.
pin 64: VCC : - : Positive voltage supply.
pin 65: HSSW1 : IN : L = It operates by one twice the speed of a standard.
pin 66: NU : - : Not in use.
pin 67: EEP DI : IN : Serial data input from EEP-ROM.
pin 68: EEP DO : O : Serial data output to EEP-ROM.
pin 69: EEP CK : O : EEP-ROM clock pulse out.
pin 70: EEP CE : O : EEP-ROM chip enable signal out.
pin 71: NU : - : Not in use.
pin 72: NU : - : Not in use.
pin 73: TDO : O : IEEE standard 1149.1 test data output. The contents of the selected register (instruction or data) are shifted out of TDO on the falling edge of TCK.
pin 74: T CK : O : The test clock output.
pin 75: T CLEAR : O : The test clear output.
pin 76: MECHA SEL 2 : IN : The mechanism selection signal input.

pin 77: MECHA SEL 1 : IN : The mechanism selection signal input.
pin 78: FL BOOT : IN : Flash memory control.
pin 79: TEST 1 : IN : For the test.
pin 80: TEST 2 : IN : For the test.
pin 81: TEST 3 : IN : For the test.
pin 82: TEST 4 : IN : For the test.
pin 83: I2C REQUEST : O : I2C request output.
pin 84: I2C SDA :I/O: I2C serial data input/output.
pin 85: I2C SCL :I/O: I2C serial clock input/output.
pin 86: ACC DET : IN : ACC detection signal input.
pin 87: NU : - : Not in use.
pin 88: SW 1 : IN : The switch signal input.
pin 89: VCC : - : Positive voltage supply.
pin 90: SW 2 : IN : The switch signal input.
pin 91: VSS : - : Negative voltage supply.
pin 92: SW 3 : IN : The switch signal input.
pin 93: SW 4 : IN : The switch signal input.
pin 94: NU : - : Not in use.
pin 95: PT 3 : IN : The photo sensor signal input.
pin 96: PT 2 : IN : The photo sensor signal input.
pin 97: PT 1 : IN : The photo sensor signal input.
pin 98: PT 5 : IN : The photo sensor signal input.
pin 99: PT 4 : IN : The photo sensor signal input.
pin100: Vref H : - : Reference voltage.

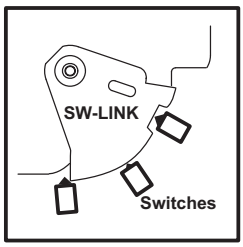
DISASSEMBLY

How to remove "CD-PWB-ASSY"

1. Add +5V to "U+" terminal of UD-MOTOR-ASSY,then SIDE-P-ASSY-F moves outside of CD-PWB.
2. Release four FPCs.
3. Remove three screws
4. Remove the washer.
5. Remove SW-H-PLATE and SW-LINK, and remove CD-PWB-ASSY.

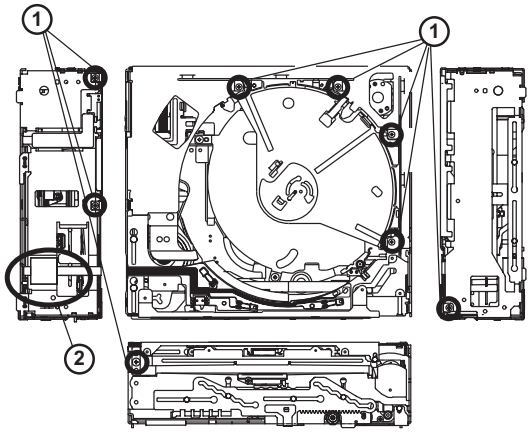


*When assembling, match SW LINK to three switches.

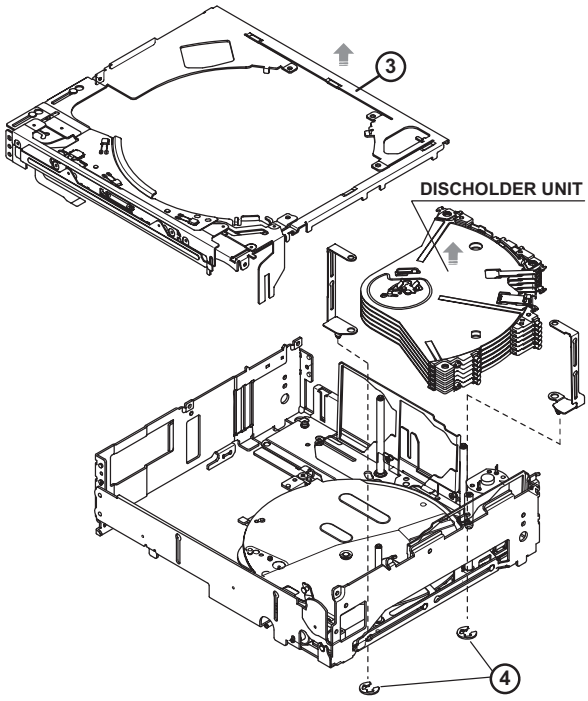


How to remove "DISCHOLDER UNIT"

1. Remove eight screws.
2. Remove the FPC.

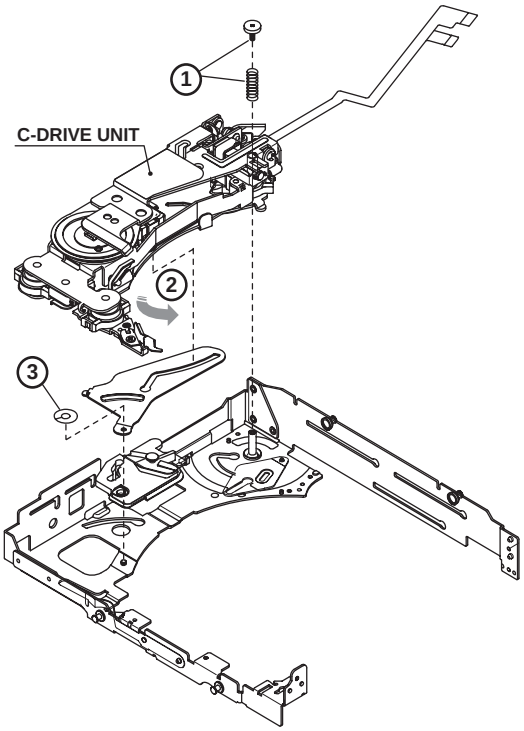


3. Remove UPPER UNIT ASSY.
4. Remove two C-RINGs, and remove DISCHOLDER UNIT.



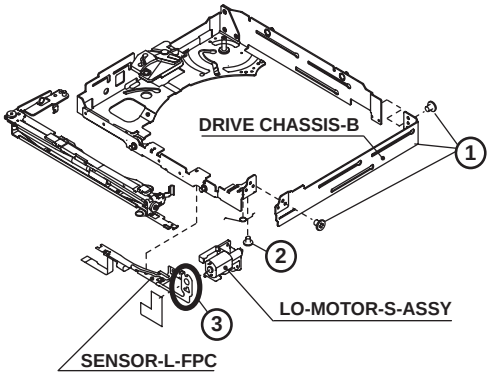
How to remove "C-DRIVE UNIT"

1. Remove the screw and DRIVE SPRING-A.
2. Rotate C-DRIVE UNIT internally.
3. Remove the washer, and remove C-DRIVE UNIT.



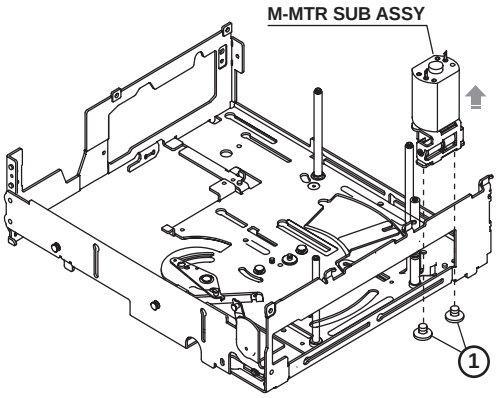
How to remove "LO-MOTOR-S-ASSY"

1. Remove two screws and DRIVE CHASSIS-B.
2. Remove the screw of the bottom side.
3. Remove the solder of SENSOR-L-FPC, and remove LO-MOTOR-S-ASSY.



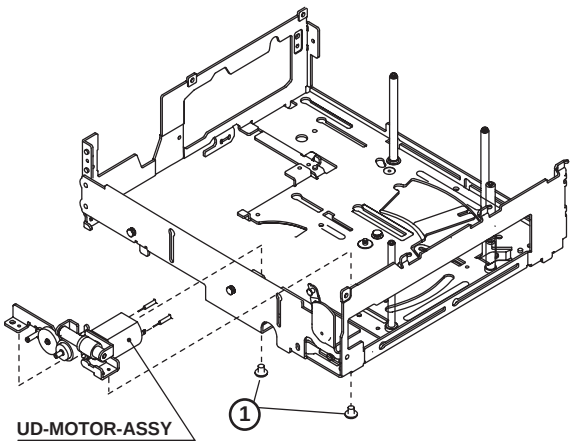
How to remove "M-MTR SUB ASSY"

1. Remove two screws, and remove M-MTR SUB ASSY.

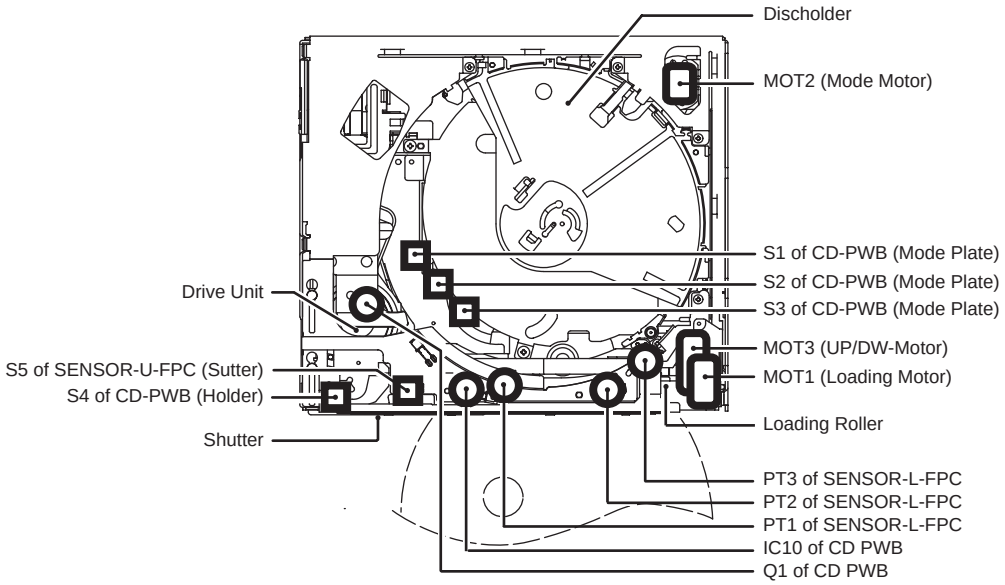


How to remove "UD-MOTOR-ASSY"

1. Remove the screw of the bottom side, and remove UD-MOTOR-ASSY.



OPERATION



Function of Mechanism

[DISC HOLDER]
Six holders.
(Related motor:UP/DW-Motor)
[DRIVE UNIT]
Chukking of a play disc.
(Related Motor:Mode motor)
[LOADING ROLLER]
Disk is stored/ejected by rotation.
(Related Motor:Laoding motor)
[SHUTTER]
Shutter at disc insertion.
(Related Motor:Mode Motor)

Function of Switches

[S1,2,3]
Detect a home position of mode plate.
Detect mode plate position by combination of on and off.
[S4]
Detection of initial position of holder.
Initial position:S4-ON,IC10-bright.
[S5]
Opening/closing detection of shutter.
OFF:Close, ON:Open

Function of Motors

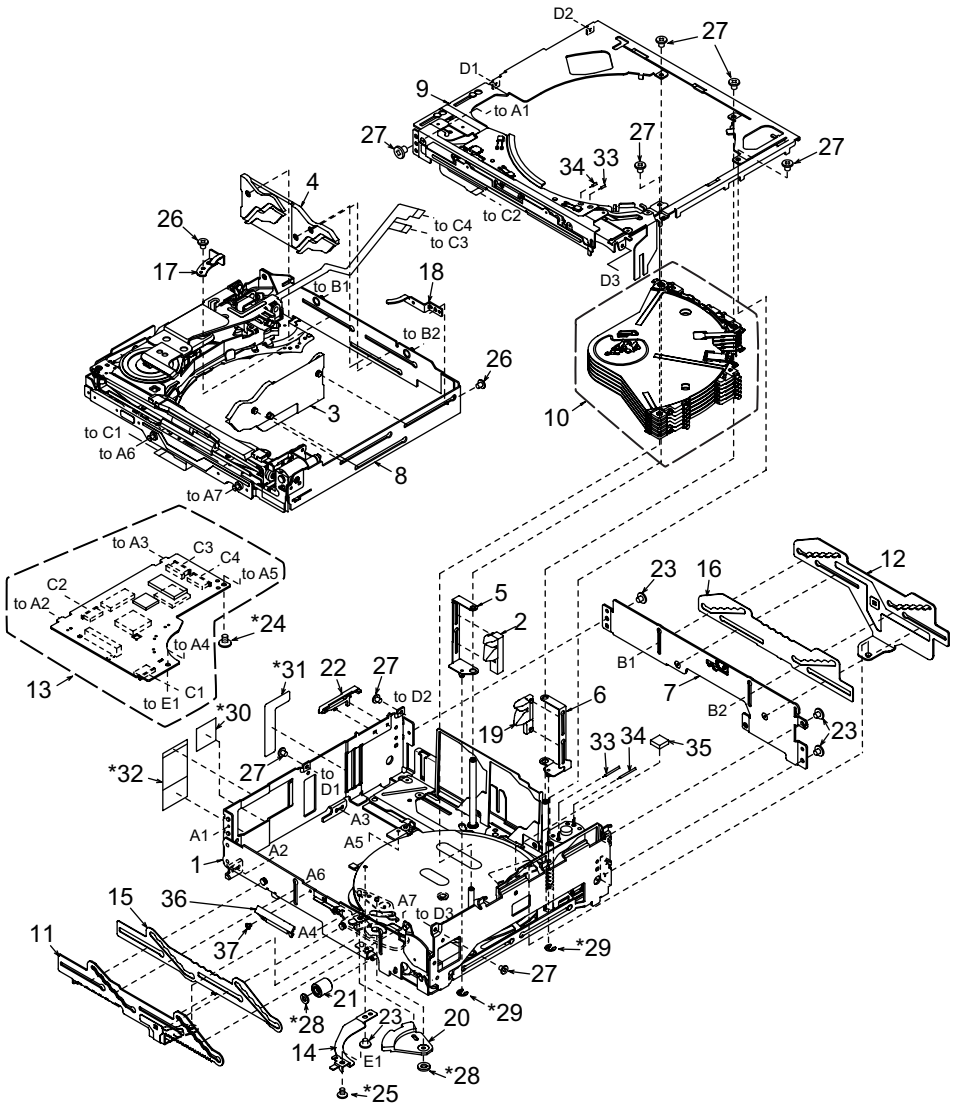
[MOT1 LOADING MOTOR]
Rotation of loading roller.
(Related Sensor:PT1,2,3,Q1)
[MOT2 MODE MOTOR]
Rotation of mode plate.
Chukking disc.
Opening/closing holder.
Movement of loading/ejecting roller.
Opening/closing shutter.
(Related Sensor:S1,2,3)
[MOT3 UP/DW-MOTOR]
Going up and down of disc holder.
Selection of disc holder.
(Related Sensor:S4,IC10)

Function of Photo sensors

[PT1]
Detection of start loading and passing of disc.
Bright:no DISC, Dark:DISC
[PT2]
Detection of finish eject and passing of disc.
Bright:no DISC, Dark:DISC
[PT3]
Detection of store and passing of disc.
Bright:no DISC, Dark:DISC
[Q1]
Detection of passing of disc.
Bright:no DISC, Dark:DISC
[IC10]
Detection of holder position

EXPLODED VIEW/PARTS LIST

Main section

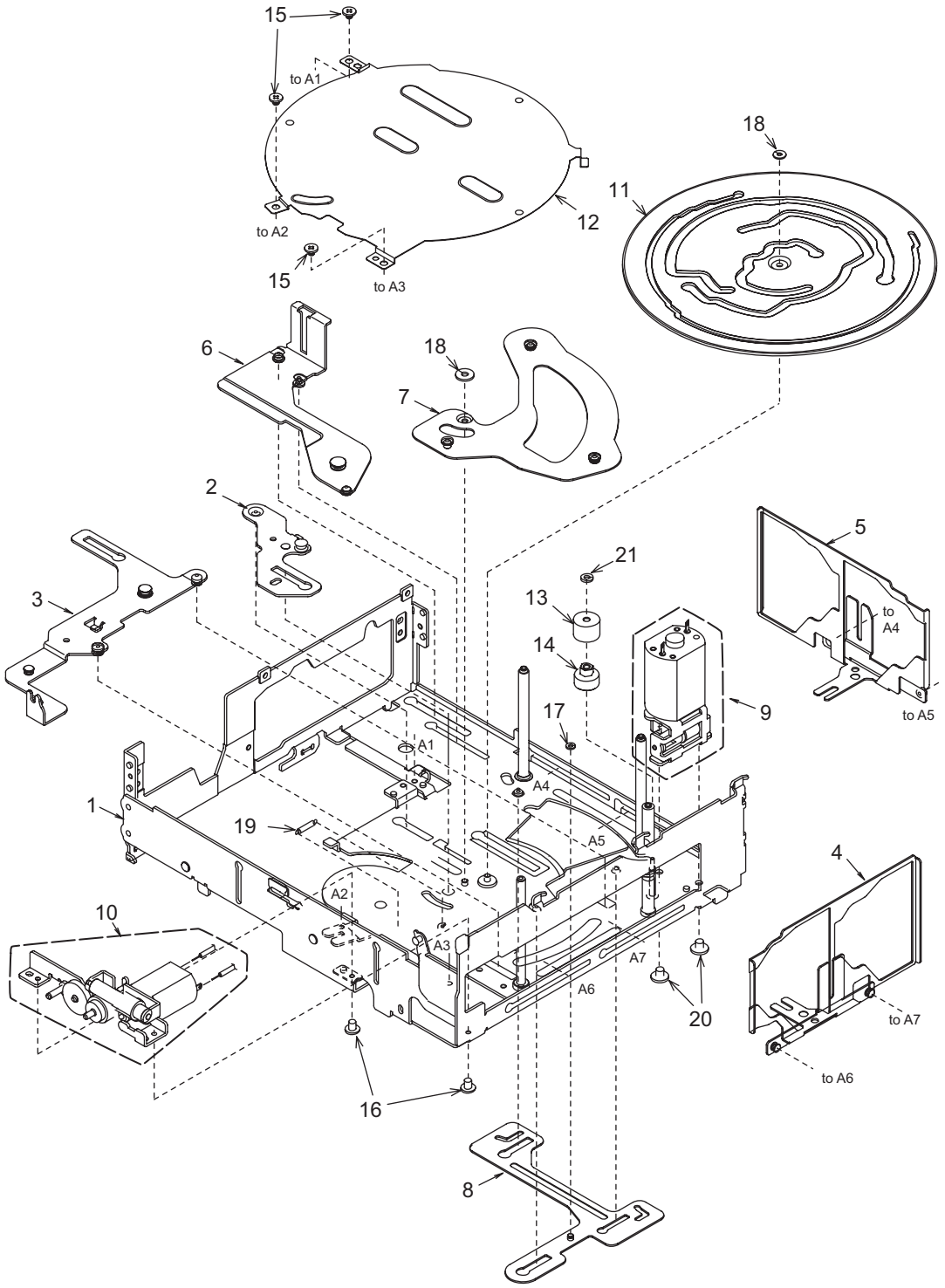


* Do not reuse the following parts.
(No.24,25,28,29,30,31,32)

NO.	PART NO.	DESCRIPTION	Q'TY
1	HBS-585-200	LOWER UNIT ASSY	1
2	966-0667-21	DISC STP-ASSY L	1
3	HBS-584-100	DH-SEL-ASSY S	1
4	HBS-583-100	DH-SEL-ASSY R	1
5	966-0670-22	DS-SP-ASSY L	1
6	966-0671-23	DS-SP-ASSY R	1
7	966-0672-21	REAR-P-ASSY	1
8	966-1871-20	N-DRIVE-CH UNIT	1
9	966-1764-21	UPPRR UNIT ASSY	1
10	HBS-566-300	DISCHOLDER UNIT	1
11	966-1771-21	SLIDE-P-ASSY F	1
12	966-0709-21	SLIDE-P-ASSY R	1
13	HBS-605-100	CD-PWB-ASSY	1
14	620-1640-20	SW-H-PLATE	1
15	620-1778-20	GAP PLATE F	1
16	620-1662-21	GAP PLATE R	1
17	620-1685-21	DS-PLATE L	1
18	620-1686-20	DS-PLATE R	1
19	621-1634-23	DISC STOPPER R	1

NO.	PART NO.	DESCRIPTION	Q'TY
20	621-1636-24	SW LINK	1
21	621-1765-20	UD-GEAR-D	1
22	621-1715-20	FPC-STOPPER	1
23	716-1850-01	SCREW (M2.0x2.0)	4
24	716-3629-00	SCREW (M2.0x2.5)	1
25	716-1851-02	SCREW (M2.0x3.0)	1
26	716-3450-00	SCREW (M1.7x2.0)	2
27	716-3451-01	SCREW (M1.7x2.5)	8
28	746-0761-00	WASHER	2
29	744-0045-01	C-RING	2
30	347-7271-00	FPC SHEET	1
31	347-7275-00	PROTECT SHEET	1
32	347-7276-00	FPC-SHEET C	1
33	800-4921-60	VINYL-COAT WIRE	1
34	802-4921-60	VINYL-COAT WIRE	1
35	345-5824-00	RUBBER PART	1
36	621-1763-20	LOADING GUIDE B	1
37	716-1859-01	SCREW (M1.7x2.0)	1

Lower unit assy section



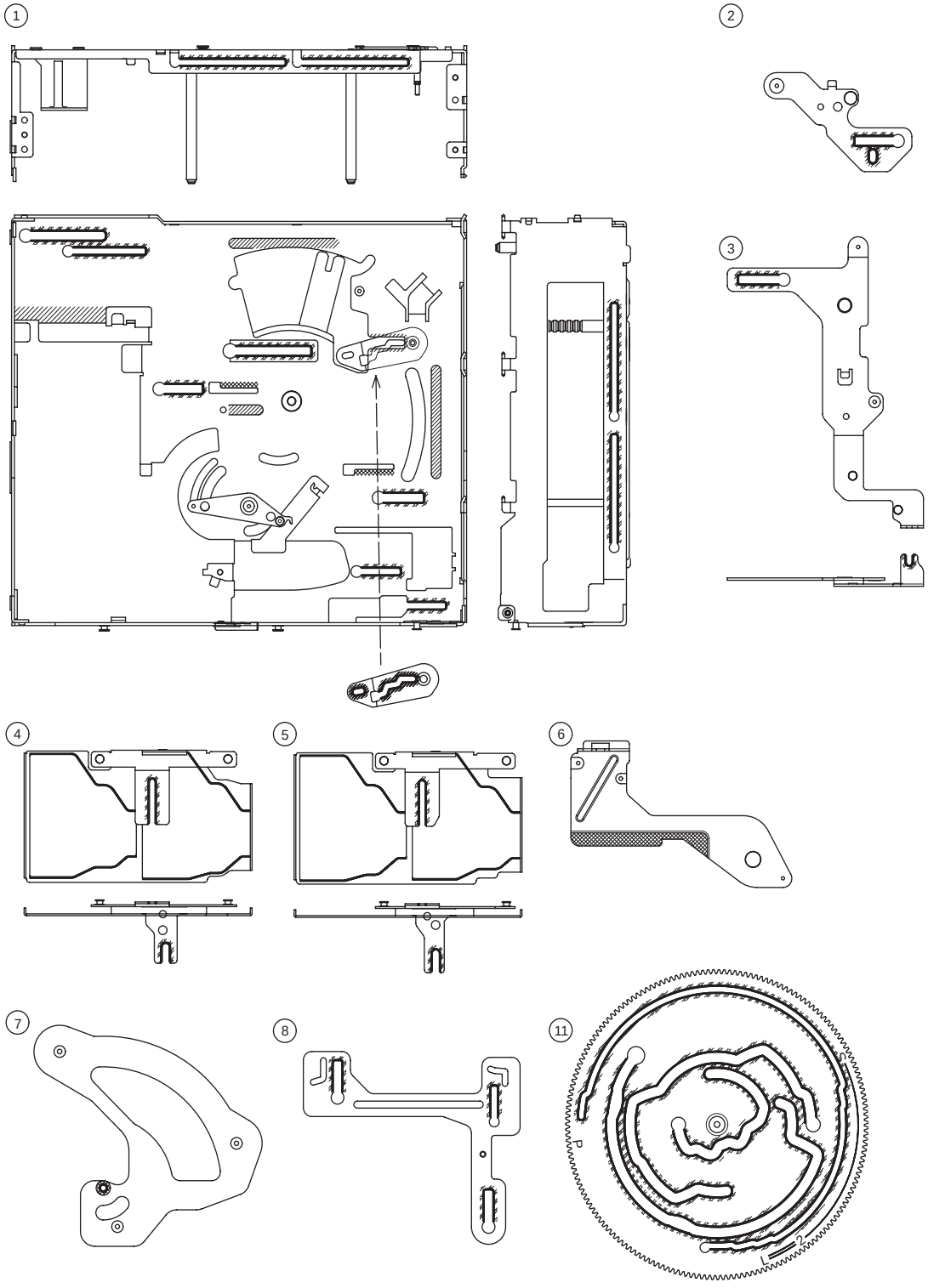
NO.	PART NO.	DESCRIPTION	Q'TY
1	966-1757-25	LOWER-C-ASSY	1
2	966-0658-22	DH-SP-ASSY A	1
3	966-1758-20	DS-SP-ASSY A	1
4	966-1808-20	DH-SP-ASSY S	1
5	966-1809-20	DH-SP-ASSY R	1
6	966-0677-23	D-SHT PL-B-ASSY	1
7	966-0659-22	DH-SP-ASSY B	1
8	966-0666-22	DS-SP-ASSY B	1
9	HBS-546-100	M-MTR SUB ASSY	1
10	HBS-568-100	UD-MOTOR-ASSY	1
11	620-1623-24	CAM GEAR	1

NO.	PART NO.	DESCRIPTION	Q'TY
12	620-1624-24	GEAR COVER	1
13	621-0732-21	M-GEAR B	1
14	621-0733-20	M-GEAR C	1
15	716-1850-01	SCREW(M2.0x2.0)	3
16	716-3451-01	SCREW(M1.7x2.5)	2
17	746-0761-00	WASHER	1
18	746-0768-00	WASHER	2
19	750-6756-20	SW-L-SPRING	1
20	716-1851-03	SCREW(M2.0x3.0)	2
21	746-0941-00	WASHER	1

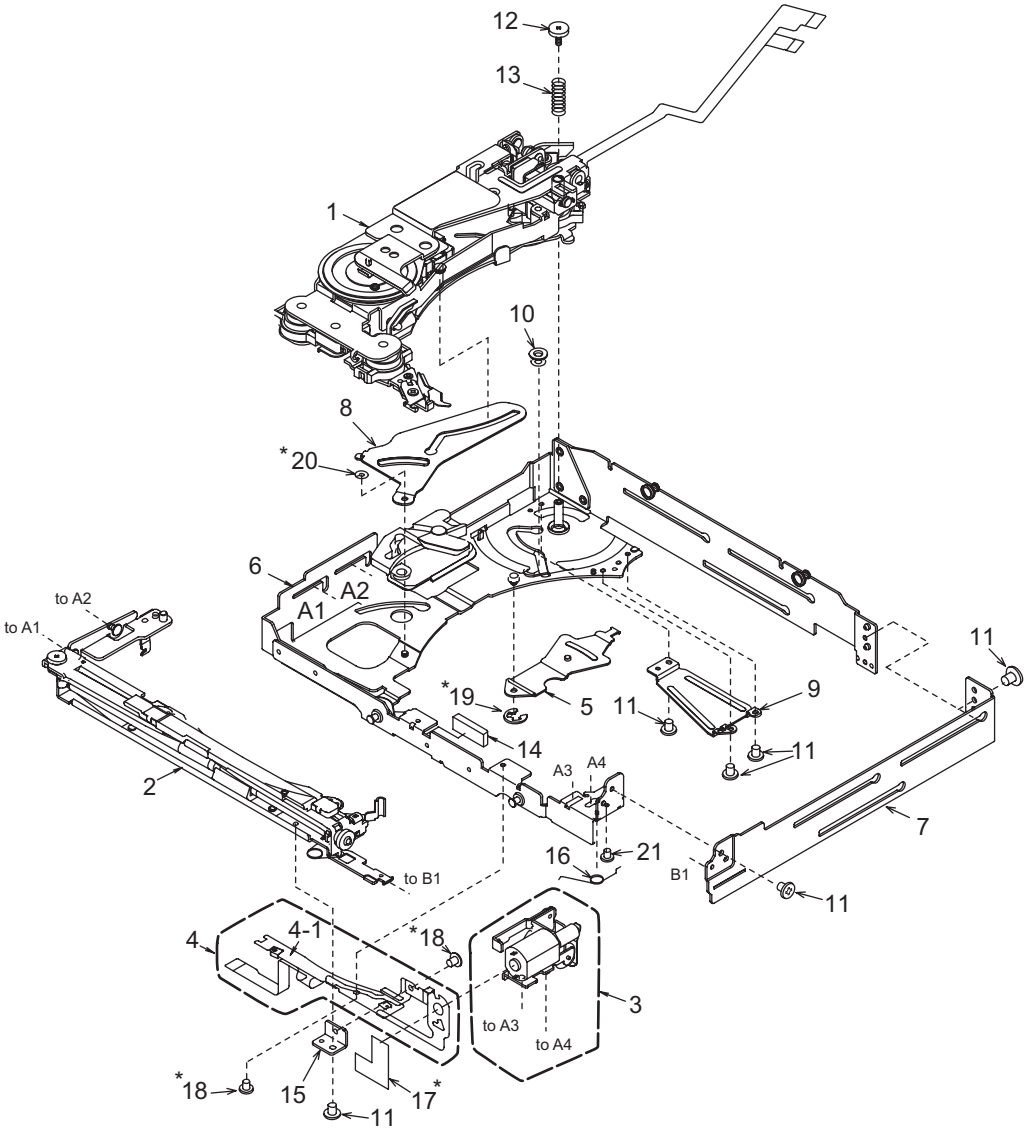
[Grease Point]

* Grease : SANKOL FG-87HSR

	Put grease on the surface	
	Put grease on the reverse side	
	Put grease on the both sides	
	Put grease on the edge	



N-Drive-CH unit section



* Do not reuse the following parts.
(No.17,18,19,20)

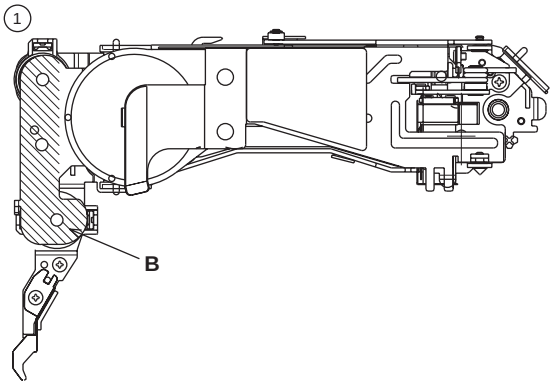
NO.	PART NO.	DESCRIPTION	Q'TY
1	HBS-604-100	N-DRIVE UNIT	1
2	HBS-567-200	LOADING-U-ASSY	1
3	HBS-556-100	LO-MOTOR-S-ASSY	1
4	HBS-552-200	L-SENSOR-S-ASSY	1
4-1	----------	SENSOR-L-FPC	1
5	966-0676-21	D-SHT LK-A-ASSY	1
6	966-1755-22	DRIVE-CH A ASSY	1
7	620-1681-21	DRIVE CHASSIS B	1
8	620-1672-21	DR-SUPPORT-PL	1
9	620-1680-20	D-SHIFT COVER	1
10	622-1743-21	D-SHIFT ROLLER B	1

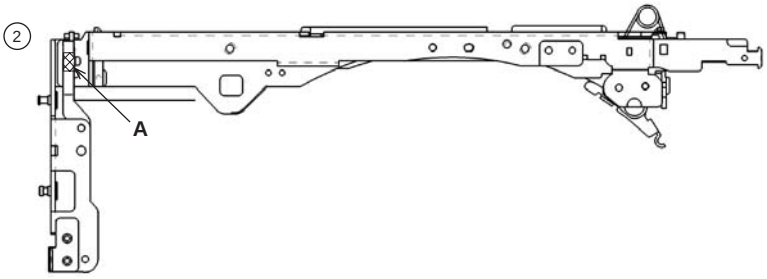
NO.	PART NO.	DESCRIPTION	Q'TY
11	716-3450-00	SCREW(M1.7x2.0)	6
12	716-3459-01	SCREW(M1.7x2.0)	1
13	750-6761-20	DRIVE SPRING A	1
14	345-5868-01	RUBBER PART	1
15	620-1651-21	S-PWB-PLATE	1
16	750-6754-20	LO-ES-SPRING B	1
17	345-5424-01	SEN-FPC GUIDE	1
18	716-1859-01	SCREW(M1.7x2.0)	2
19	744-0039-00	E-RING	1
20	746-0870-00	WASHER	1
21	716-3538-00	SCREW(M1.7x2.0)	1

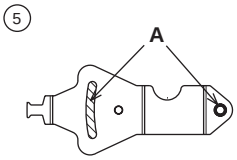
[Grease Point]

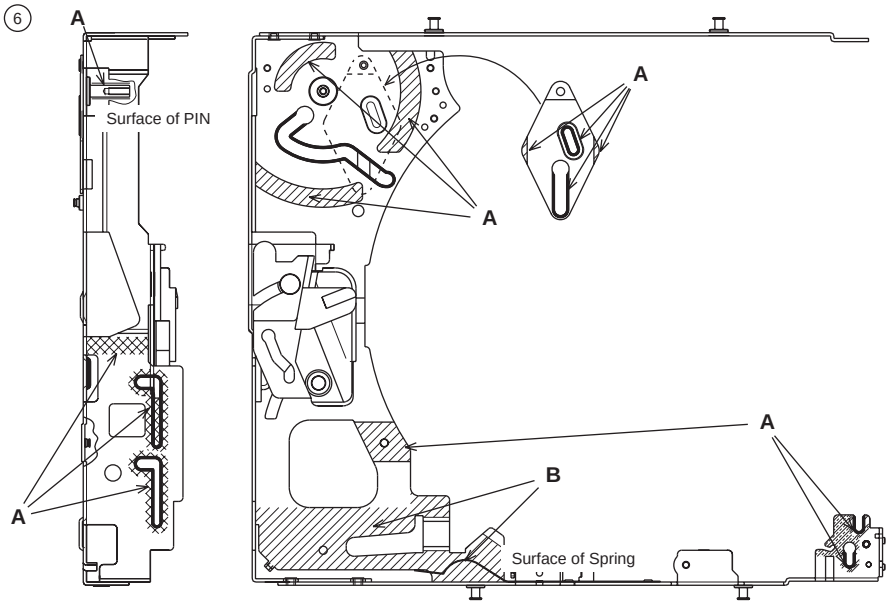
* Grease A : SANKOL FG-87HSR
* Grease B : SANKOL CFD-006MBL

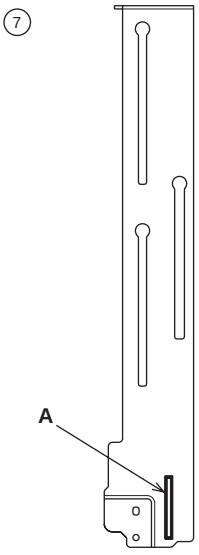
Put grease on the surface	
Put grease on the reverse side	
Put grease on the both sides	
Put grease on the edge	

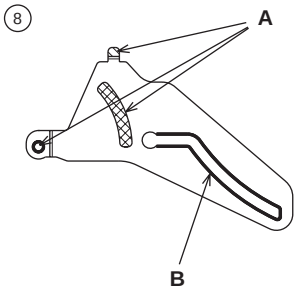


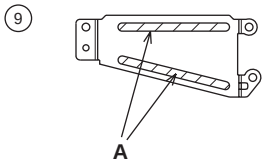


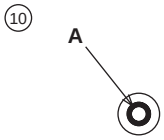




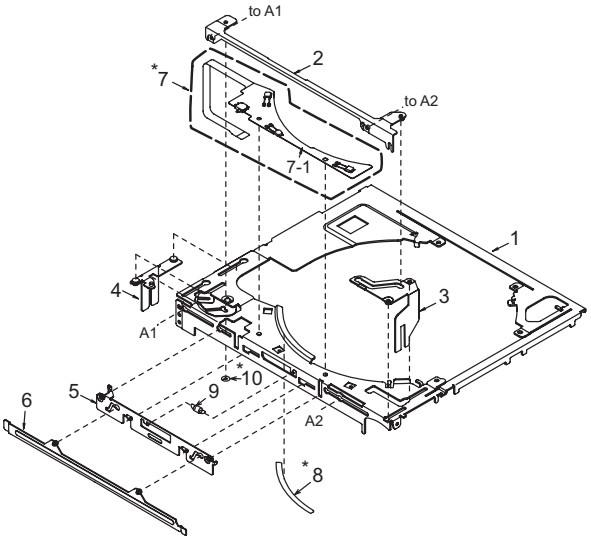








Upper unit assy section



* Do not reuse the following parts.
(No.7,8,10)

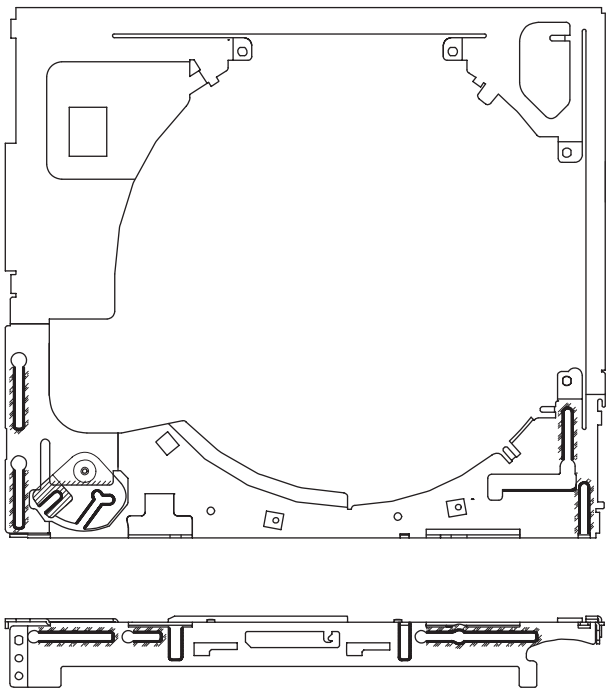
NO.	PART NO.	DESCRIPTION	Q'TY
1	966-1761-21	UPPER-CHA-ASSY	1
2	966-1765-20	LO-SHIFT A ASSY	1
3	966-0700-22	LO-SHIFT B ASSY	1
4	966-0701-21	LO-SHIFT ASSY	1
5	966-1766-20	SHUTTER-PL-ASSY	1
6	966-1763-20	SHUTTER ASSY	1
7	HBS-553-200	U-SENSOR-S-ASSY	1
7-1	----------	SENSOR-U-FPC	1
8	347-7272-00	RATTLE SHEET	1
9	750-6755-21	SHUTTER SPRING	1
10	746-0870-00	WASHER	1

[Grease Point]

* Grease : SANKOL FG-87HSR

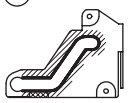
Put grease on the surface	
Put grease on the reverse side	
Put grease on the both sides	
Put grease on the edge	

①

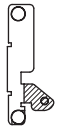


②

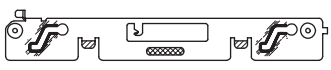
③



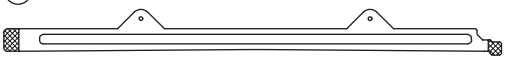
④



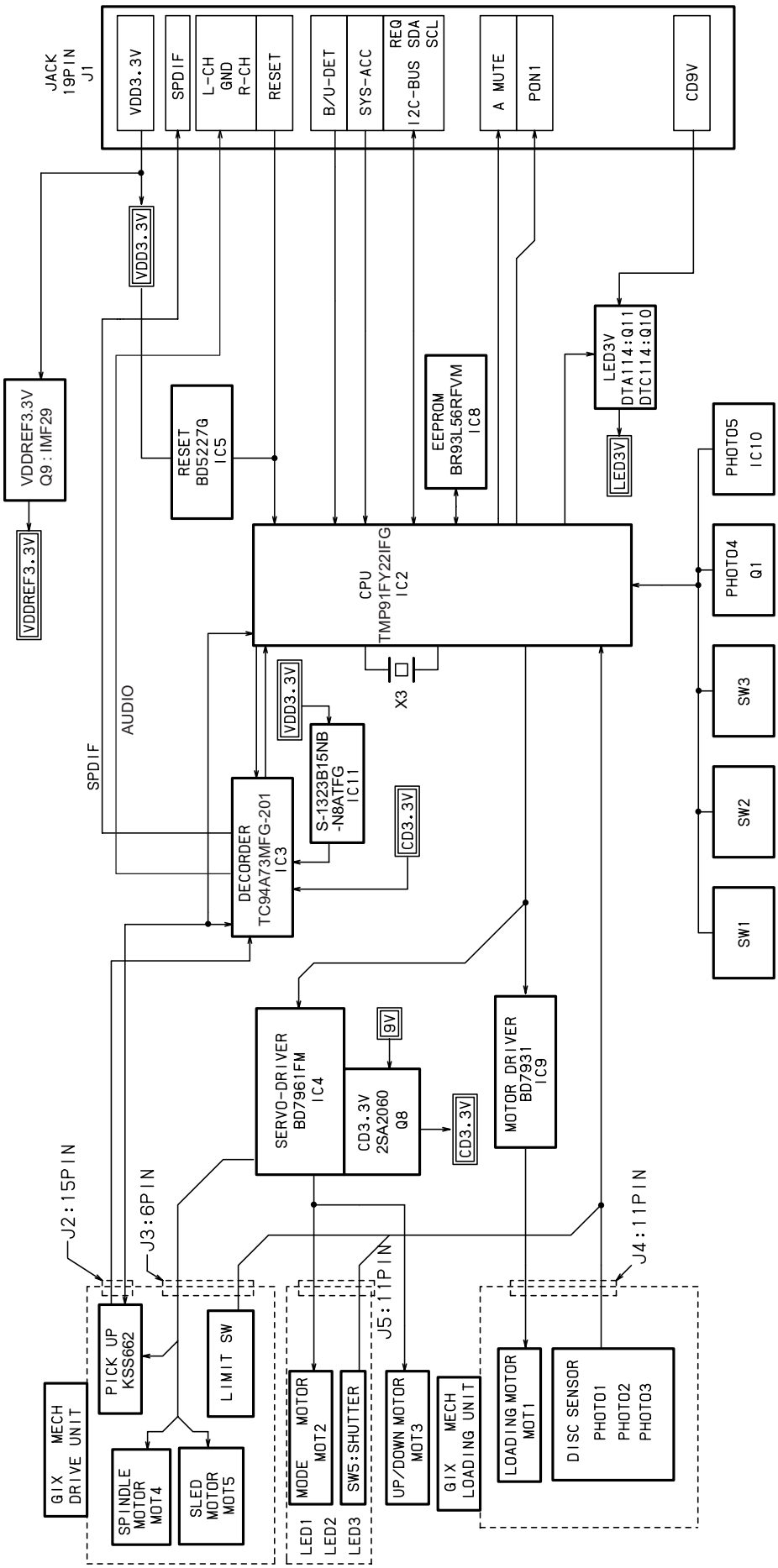
⑤



⑥



BLOCK DIAGRAM



ELECTRICAL PARTS LIST

CD PWB(BM1) section

REF No.	PART No.	DESCRIPTION
C1	168-1052-78	1uF
C3	168-1042-78	16V 0.1uF
C4	043-0559-90	6.3V 22uF
C5	168-1032-55	0.01uF K
C6	042-1702-90	6.3V 100uF
C7	168-1052-78	1uF
C9	168-1052-78	1uF
C11	168-1052-78	1uF
C12	042-0671-01	10V 47uF TA
C13	168-1052-78	1uF
C14	168-1042-78	16V 0.1uF
C15	168-1052-78	1uF
C16	043-0559-90	6.3V 22uF
C17	168-1032-55	0.01uF K
C18	168-1052-78	1uF
C19	043-0559-90	6.3V 22uF
C20	168-1042-78	16V 0.1uF
C21	168-1032-55	0.01uF K
C23	043-0559-90	6.3V 22uF
C24	043-0559-90	6.3V 22uF
C25	168-4732-78	0.047uF K
C26	166-4711-50	470pF CH
C28	168-4732-78	0.047uF K
C29	166-4711-50	470pF CH
C30	166-1007-50	10pF CH
C31	166-1007-50	10pF CH
C32	168-1042-78	16V 0.1uF
C33	168-2222-55	2200pF K
C34	168-1042-78	16V 0.1uF
C35	168-1042-78	16V 0.1uF
C36	168-1042-78	16V 0.1uF
C37	168-6822-55	6800pF K
C39	168-1042-78	16V 0.1uF
C40	168-3332-78	0.033uF K
C41	168-1042-78	16V 0.1uF
C42	168-1042-78	16V 0.1uF
C43	168-1042-78	16V 0.1uF
C45	168-1042-78	16V 0.1uF
C46	168-1042-78	16V 0.1uF
C48	168-1042-78	16V 0.1uF
C49	168-1042-78	16V 0.1uF
C50	168-1042-78	16V 0.1uF
C51	168-1042-78	16V 0.1uF
C52	168-5622-55	5600pF K
C53	168-1042-78	16V 0.1uF
C54	166-6801-50	68pF CH
C55	168-1532-55	0.015uF K
C56	168-1042-78	16V 0.1uF
C57	168-1032-55	0.01uF K
C58	168-1042-78	16V 0.1uF
C59	168-1042-78	16V 0.1uF
C60	168-1522-55	1500pF K
C61	168-3322-55	3300pF K
C62	168-1032-55	0.01uF K
C64	168-1042-78	16V 0.1uF
C65	168-1032-55	0.01uF K
C67	168-1032-55	0.01uF K
C69	168-1532-55	0.015uF K
C70	166-4701-50	47pF CH
C71	168-1042-78	16V 0.1uF
C72	168-1042-78	16V 0.1uF
C74	166-6097-50	6pF CH

REF No.	PART No.	DESCRIPTION
C75	168-1042-78	16V 0.1uF
C76	168-5622-55	5600pF K
C77	168-1032-55	0.01uF K
C79	166-1501-50	15pF CH
C80	166-1501-50	15pF CH
C101	043-0563-90	16V 47uF
CCT1	050-0145-59	1/16W 22 ohm x4
CCT2	050-0145-54	1/16W 47k ohm x4
CCT3	050-0145-54	1/16W 47k ohm x4
CCT4	050-0145-55	1/16W 10k ohm x4
CCT5	050-0140-55	1/32W 2.2k ohmx4J
D1	001-4301-14	HZU 3.0B1
D2	001-0367-91	1SS226
D3	001-4301-16	HZU 3.3B1
D4	001-4301-18	HZU 3.6B1
D5	001-2612-90	RB520S-30
D6	001-2612-90	RB520S-30
D7	001-9210-50	AVR-M1608C270MTAAD
D8	001-9210-50	AVR-M1608C270MTAAD
IC2	052-5071-30	TMP91FY22IFG-6R96
IC3	051-6733-00	TC94A73MFG-201
IC4	051-6060-08	BD7961FM-E2
IC5	051-5445-08	BD5227G-TR
IC8	051-9402-78	BR93L56RFVM-W
IC9	051-6072-08	BD7931FE2
IC10	051-5833-00	GP1S093HCZ
IC11	051-3392-90	S-1323B15NB-N8ATFG
J1	074-1237-69	19PIN
J2	074-1201-65	15P
J3	074-1138-56	6P
J4	074-1100-61	SOCKET 11P
J5	074-1201-61	11P SOCKET
Q1	060-0252-01	PT4850F
Q2	125-0021-91	DTA114EUA
Q3	198-3018-00	2SK3018
Q4	190-2060-00	2SA2060
Q8	190-2060-00	2SA2060
Q9	125-9026-90	IMF29
Q10	125-2027-91	DTC114EUA
Q11	125-0021-91	DTA114EUA
Q12	125-2027-91	DTC114EUA
Q13	125-9026-90	IMF29
R1	119-6811-15	1/10W 680 ohm
R2	119-6811-15	1/10W 680 ohm
R3	032-0163-91	1/2W 10 ohm
R4	032-0163-91	1/2W 10 ohm
R5	119-2231-15	1/10W 22k ohm
R6	116-1001-15	1/4W 10 ohm
R7	119-1021-15	1/10W 1k ohm
R8	116-1591-15	1/4W 1.5 ohm
R9	119-2231-15	1/10W 22k ohm
R10	119-4711-15	1/10W 470 ohm
R11	119-2211-15	1/10W 220 ohm
R12	119-6811-15	1/10W 680 ohm
R13	119-1011-15	1/10W 100 ohm
R14	119-2231-15	1/10W 22k ohm
R15	119-8231-15	1/10W 82k ohm
R16	119-1041-15	1/10W 100k ohm

REF No.	PART No.	DESCRIPTION
R17	119-1041-15	1/10W 100k ohm
R18	119-1041-15	1/10W 100k ohm
R19	119-1041-15	1/10W 100k ohm
R20	119-1041-15	1/10W 100k ohm
R21	119-2221-15	1/10W 2.2k ohm
R22	119-4711-15	1/10W 470 ohm
R23	119-1051-15	1/10W 1M ohm
R24	119-2211-15	1/10W 220 ohm
R25	119-2211-15	1/10W 220 ohm
R26	119-1041-15	1/10W 100k ohm
R27	119-1051-15	1/10W 1M ohm
R28	119-1041-15	1/10W 100k ohm
R29	119-1041-15	1/10W 100k ohm
R30	119-4701-15	1/10W 47 ohm
R31	119-2201-15	1/10W 22 ohm
R32	119-1051-15	1/10W 1M ohm
R33	119-2211-15	1/10W 220 ohm
R35	119-1051-15	1/10W 1M ohm
R36	119-4721-15	1/10W 4.7k ohm
R37	119-4731-15	1/10W 47k ohm
R38	119-2231-15	1/10W 22k ohm
R39	119-1041-15	1/10W 100k ohm
R40	119-4721-15	1/10W 4.7k ohm
R41	119-4731-15	1/10W 47k ohm
R43	119-4731-15	1/10W 47k ohm
R44	119-2201-15	1/10W 22 ohm
R45	119-1511-15	1/10W 150 ohm
R46	119-4721-15	1/10W 4.7k ohm
R48	119-1041-15	1/10W 100k ohm
R49	119-0000-05	1/10W 0 ohm JW
R50	119-2211-15	1/10W 220 ohm
R51	119-0000-05	1/10W 0 ohm JW
R52	119-1041-15	1/10W 100k ohm
R53	119-5621-15	1/10W 5.6k ohm
R55	119-3341-15	1/10W 330k ohm
R56	119-4731-15	1/10W 47k ohm
R57	119-2231-15	1/10W 22k ohm
R58	119-0000-05	1/10W 0 ohm JW
R59	119-1511-15	1/10W 150 ohm
R60	119-4731-15	1/10W 47k ohm
R61	119-1041-15	1/10W 100k ohm
R62	119-1041-15	1/10W 100k ohm
R63	119-1041-15	1/10W 100k ohm
R64	119-1011-15	1/10W 100 ohm
R65	119-1041-15	1/10W 100k ohm
R66	117-5611-15	1/8W 560 ohm
R67	117-7511-15	1/8W 750 ohm
R68	117-7511-15	1/8W 750 ohm
R69	119-1041-15	1/10W 100k ohm
R81	116-1591-15	1/4W 1.5 ohm
R211	119-1041-15	1/10W 100k ohm
R212	119-1041-15	1/10W 100k ohm
S1	013-7416-50	SW SPVL110200
S2	013-7416-50	SW SPVL110200
S3	013-7416-50	SW SPVL110200
S4	013-7415-50	SPVG110400
X1	061-3534-90	16.92MHz
X3	060-1545-90	20MHz
PWB	039-3083-21	PWB(WITHOUT COMPONENT)

Sensor-L-PFC(BM2) section

REF No.	PART No.	DESCRIPTION
PT1	060-0252-01	PT14850F
PT2	060-0252-01	PT14850F

REF No.	PART No.	DESCRIPTION
PT3	051-5833-00	GP1S093HCZ

REF No.	PART No.	DESCRIPTION
PWB	039-2467-21	PWB(WITHOUT COMPONENTS)

Sensor-U-PFC(BM3) section

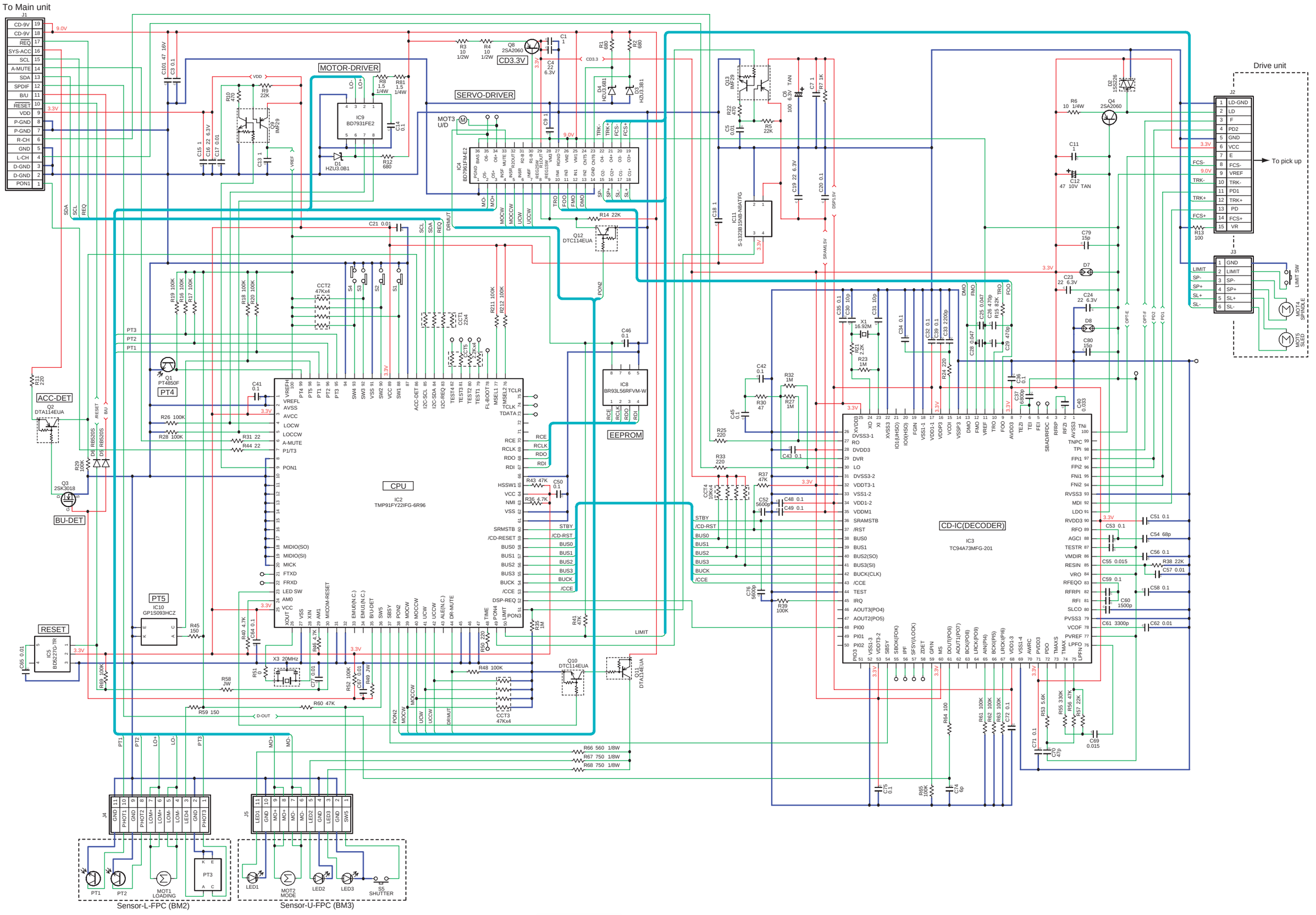
REF No.	PART No.	DESCRIPTION
LED1	001-7077-00	GL4804
LED2	001-7077-00	GL4804

REF No.	PART No.	DESCRIPTION
LED3	001-7077-00	GL4804
S5	013-7417-50	ABC1122P161

REF No.	PART No.	DESCRIPTION
PWB	039-2466-20	PWB(WITHOUT COMPONENTS)

CIRCUIT DIAGRAM

CD PWB(BM1) / Sensor-L-FPC(BM2) / Sensor-U-FPC(BM3) section



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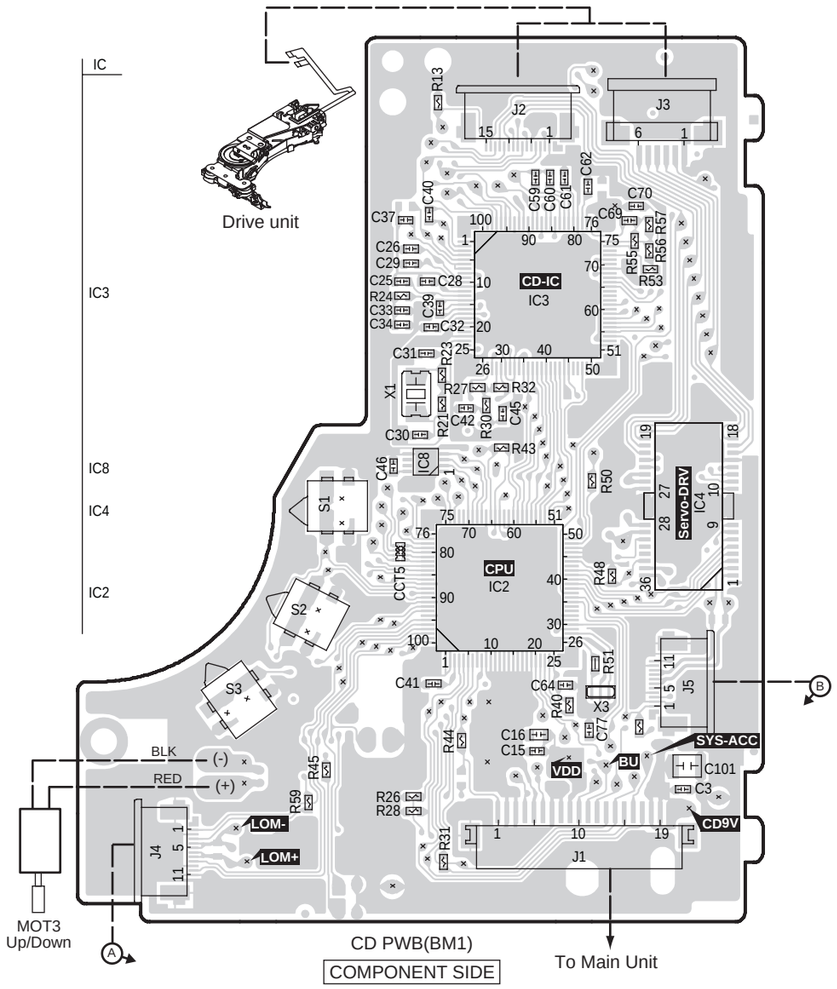
PRINTED WIRING BOARD

CD PWB(BM1) / Sensor-L-FPC(BM2) / Sensor-U-FPC(BM3) section

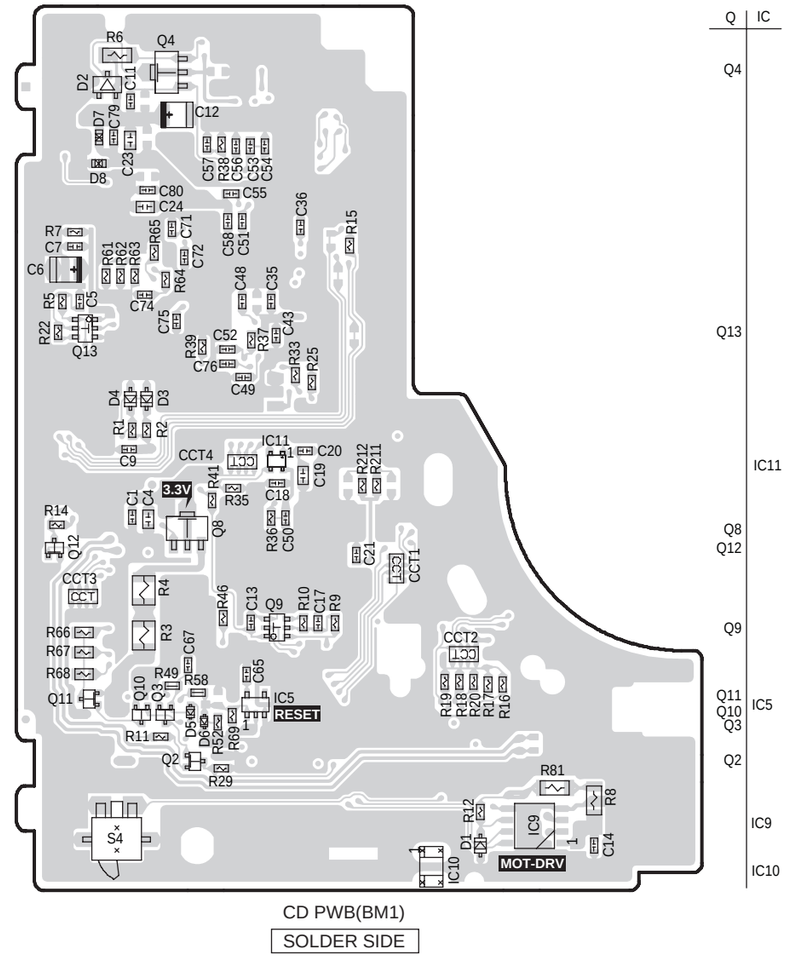
Caution:

COMPONENT SIDE:
Parts on the component side seen from the component side are indicated.

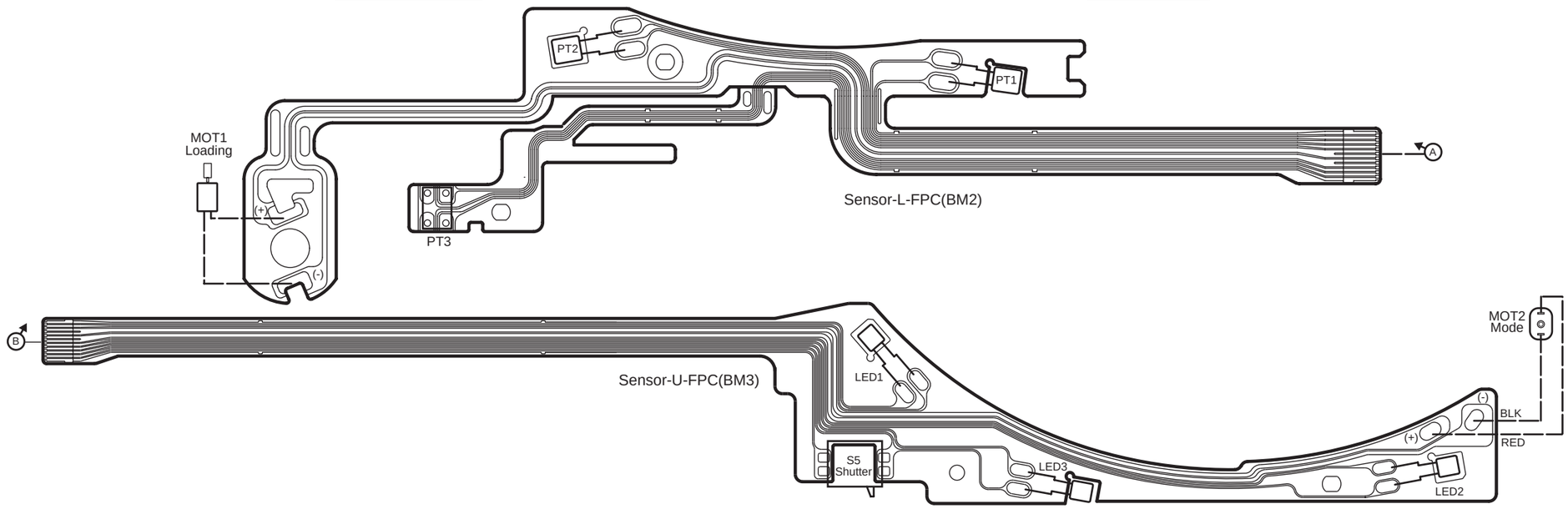
SOLDER SIDE:
Parts on the solder side seen from the solder side are indicated.



CD PWB(BM1)
COMPONENT SIDE



CD PWB(BM1)
SOLDER SIDE



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